THE BUILDER

A Journal for the Architect & Constructor

FEBRUARY 22, 1929 — No. 4490

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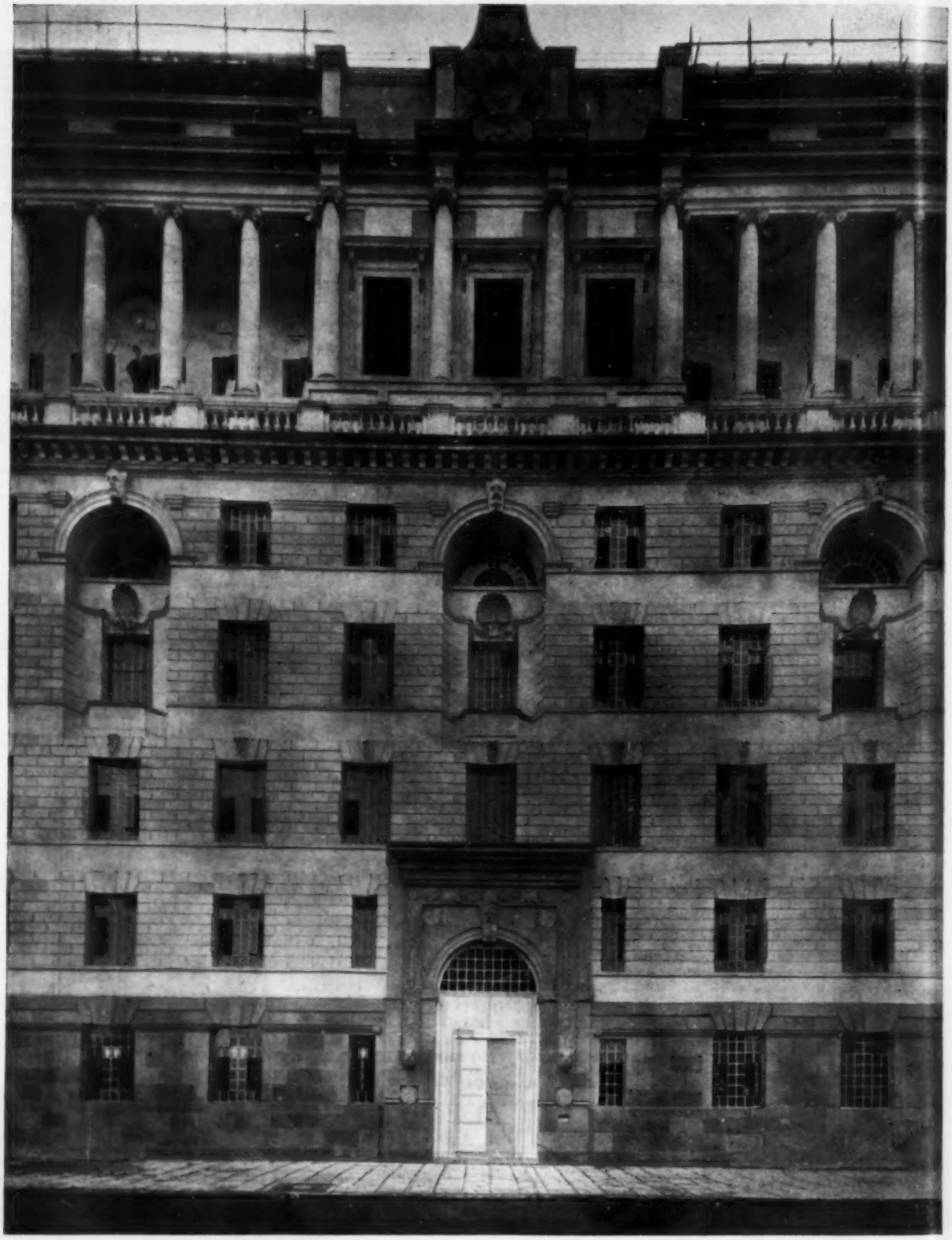
87TH YEAR



Imperial Chemical House, Millbank, S.W. : Detail of Principal Frontage.

Sir Frank Baines, F.R.I.B.A., Architect. Mr. Alfred Cox, F.R.I.B.A., Associated Architect.

THE BUILDER

A JOURNAL FOR THE ARCHITECT AND CONSTRUCTOR

WITH WHICH IS INCORPORATED "THE BRITISH ARCHITECT."

VOL. CXXXVI. No. 4490. FEBRUARY 22, 1929

THE GREAT FROST

WE are often reminded from time to time by the works of Nature how very limited is human knowledge, and how incomplete is human imagination. Much about this time last year the Thames burst its banks and flooded a part of London with tragic results. There had been high tides before backing up from the estuary; there had been vast quantities of water coming down from the flooded upper reaches often before; there had been weak places in the retaining walls known and observed, but considered too unimportant to cause alarm under the average circumstances of the average year. Human imagination failed to visualise what would arise if all these three known contingencies operated in unison, and it needed a great revolt of Nature to teach the lesson that will probably never be forgotten.

This year, Nature's lesson will probably prove to be the great frost, and the results of it are likely to reach a scale approaching the disastrous. Every year we pass through the same frosty period varying only in its intensity; and every year large sums are spent repairing the damage caused. Every pint of water running to waste from a burst pipe represents so much human energy gone to waste in pumping, purifying and distributing, apart from the time taken in repairs. In every normal year this element of waste is a really serious matter; yet it is so much spread about among a number of individuals, that these have come to think of it as an inevitable result of our climate and pay more or less cheerfully for the damage to be made good, and the inconvenience to be forgotten for another twelve months. It will be some consolation for the discomfort we have suffered if the great frost of 1929 proves a lesson sufficiently drastic to bring the whole system of domestic water supply up for review, and, if necessary, for reform.

We are yet to experience the full effects of the unprecedented cold weather; for it is certain that the plumbers will be at work for many weeks after the thaw, and many who were wont to become impatient if repairs were delayed for half a day, will find themselves waiting for perhaps a week or more, before the harassed tradesman can fit his task into the heavy rota.

Let us consider in what a variety of ways the events of the past week or two are likely to take toll of the wealth of the country. The first effect when the pipes of a household become frozen up one by one till the house is without a water supply is that somebody must make a periodical pilgrimage to the nearest source of supply and store sufficient for the day's use. It may be but a short distance, and we may, with characteristically British good humour, treat the matter as an amusing adventure of the moment; but it means that hundreds of thousands of "somebodies" are using energy that might be better spent (and is normally better spent) on productive work. Then during the early stages of a frost, before the real damage appears, the plumbers are busy running round to thaw taps that freeze again as soon as their backs are turned. Many building jobs are held up for the time being because work that these men might be very well doing in spite of the frost must wait until they are free again.

But it is after the thaw that the real extent of the waste becomes apparent. It is even now difficult to assess with anything like accuracy the cost of repairs from burst pipes, burst radiators, and burst boilers, that has already been suffered. It needs little imagination to see that the damage must run into tens of thousands of pounds, perhaps far in excess of this, from this cause alone. Then one has to visualise the immense bulk of water, trapped, stored, purified and distributed at great expense, that must have run to waste before the damage can have been made complete. Again, we have the continued interruption of normal building through the absence of plumbers, now engaged on work of necessity, instead of attending to grumbling householders. But the story does not end here. We have a water-carriage system of sewerage that has been running for a week and more upon a very inadequate and sometimes absent supply of water. There will doubtless be a vast number of drain stoppages to attend to, and in many places the damage to health may be more serious than we may imagine. The whole story is one of waste, waste, waste; and we need not be too hard on Nature for the severe part she has played.

What are we going to do about it, now we have had our hard lesson? We suggest that we should review afresh the entire system under which we have been content to deal with our domestic water supply. There are, first, the obvious things that ought to be done and which are so often not done. How few pipes are wrapped in insulating material in the majority of houses, and what foolish places are often chosen to run them along, just to save a few feet of pipe and a few shillings of initial expense? How seldom is full advantage taken of the domestic hot water pipes to protect the cold services? These are obvious safeguards that might go quite a long way towards minimising the waste that follows each annual period of frost, and we suggest that more regard should be paid to these matters, and, if necessary, a more rigorous control imposed upon new water lay-outs than is at present exercised by the various water authorities. They stipulate the weights and strengths of pipes to be used already; why should they not go even further and insist on a sensible lay-out of the internal services?

But even this is only going half-way towards meeting our difficulties. Scientists have given us stainless steel for many purposes, and we may yet see stainless constructional steelwork used generally as a permanent building material. Has any scientist yet attempted to produce the perfect insulating material in a form that could be generally and cheaply used throughout our water-carrying pipes? We know there are various materials that meet the difficulty after a fashion; but unless it is made easy and cheap, there will be little use made of such a thing. What we should like to see on the market is an actual pipe either of material in itself a perfect insulator of heat, or of a material into which such an insulator had been combined and embodied. The pipe must be cheap, strong and easily worked; and then we might see it in general use, and our fears of the frost a nightmare of the past.

Or it might not be expecting too much of our scientists that they might find some chemical which, when added to water, lowered its freezing point, without in any way endangering health or affecting the taste of the water. If this became a possibility and water was treated at the works in this way during severe periods, many of our troubles would be removed. This has been done so far as car radiators are concerned, but we imagine the resulting liquid is neither good to taste or good for the health, and something else would need to be found to answer a similar purpose with our public water supplies—something that would not provide a remedy that was worse than the disease.

If this disastrous frost succeeds in stirring our ingenuity into activity with permanent results for good, it will have done much to atone for the things we hate it for. What we fear is that we shall take it for granted that we are not likely to see such a one again, and continue to suffer the waste year by year that is so serious a matter in times when we should all be busy in productive work. Apathy is the worst frost of all.

NOTES

Plumbing Work.

THE subject of plumbing was a most opportune one to be discussed at the Royal Institute of British Architects, but unfortunately the meeting on Tuesday night was private, and we are therefore unable to report what architects and those concerned had to say in explanation of the admitted defects in our buildings revealed by the recent severe weather. Architects are generally associated with plumbers in the criticism of plumbing arrangements, and a daily paper wonders how architects have the temerity to discuss such a subject, and says that in Canada we should be laughed at for our inability to cope with the menace of wintry weather. Of course we are told it should not be necessary to put all the service pipes on the cold side of the house, and that we should put them snugly away in the centre of the house. That more care is needed in the average building as regards the protection of pipes one cannot deny, but architects of good reputation would deny that they neglect the proper treatment of pipe services. Inasmuch as competent architects are not engaged in the design and erection of the great majority of houses, or in purely plumbing contracts, the plumber is generally left with the responsibility. Thanks to the admirable educational work by the Plumbers' Company in recent times (and, may we not remember, helped by the work of an architect as Master of the Company) their craftsmanship has vastly improved, but still much remains to be done. Whilst "architecture" is such a heterogeneous profession, the plumber is generally *de facto* the one actually responsible for the work he does and our recent troubles reveal the need for better supervision.

The Abbey Sacristy.

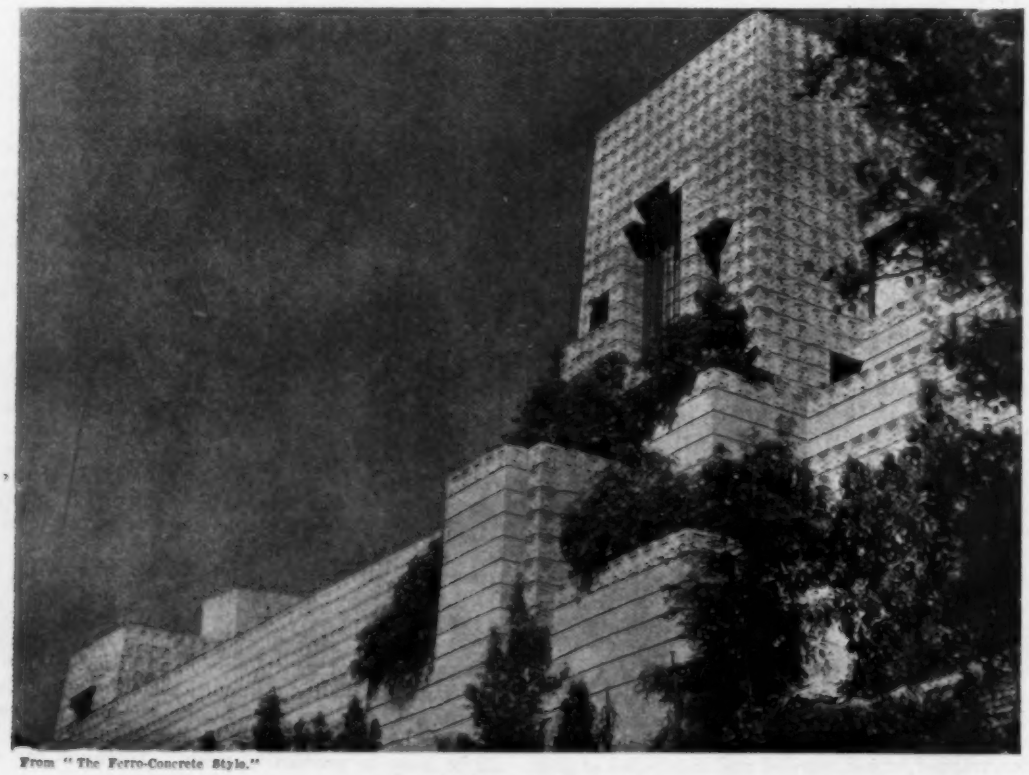
ON the question of providing a sacristy for Westminster Abbey the Dean has made a temperate and reasoned statement in which he fairly points out that the sentimental and artistic are only part of the problem, and the practical need of the services of the church is another. Considering the effort which has been devoted to obtain the best solution of the problem, we sympathise with the Dean in his point of view, especially as we believe that a new sacristy can be provided without any real offence to those who have opposed its erection. It is really quite necessary that the many functions which have to be provided for in our great national church should be conveniently and adequately equipped, hence the need for the accommodation.

The Building Trades Parliament.

AN interesting letter appears on another page in which the writer, Mr. J. E. Drower, recalls the attempt to reorganise the Building Industry made in 1918. In that year the Industrial Council for the Building Industry, or the Building Trades Parliament as it was subsequently called, was formed with the admirable object of securing lasting peace in the industry, and many of our readers will remember the revolutionary proposals which were made and which resulted in the dissolution of the Council. We are glad to publish Mr. Drower's letter at a time when renewed attention is being given to schemes for industrial peace.

Archæology at London University.

A VERY interesting exhibition has been opened at London University College of recent archæological discoveries in the British Isles. A great deal of progress in this field of research was made after the war, but quite recently a good deal has been added to our knowledge, and is shown here for the first time. How widely distributed our finds have been will be gathered from the catalogue, which indicates places in Derbyshire, Lincolnshire, Wiltshire, Sussex, Devon, Bedfordshire, Gloucester, Monmouth, Kent, Middlesex, Yorkshire, Somerset, Scotland, and Ireland. Such an exhibition as this shows how much is to be learnt from archæological excavations. For instance, a large cinerary urn was revealed near Devizes by rabbits scratching away the edge of a burrow on the Down. A small thin bronze knife dagger was found amongst the burnt bones over which the urn was inverted. Merely to read through the catalogue of this exhibition is to realise how interesting are the discoveries continually being made, and the influence which one discovery often has on the understanding of another.



From "The Ferro-Concrete Style."

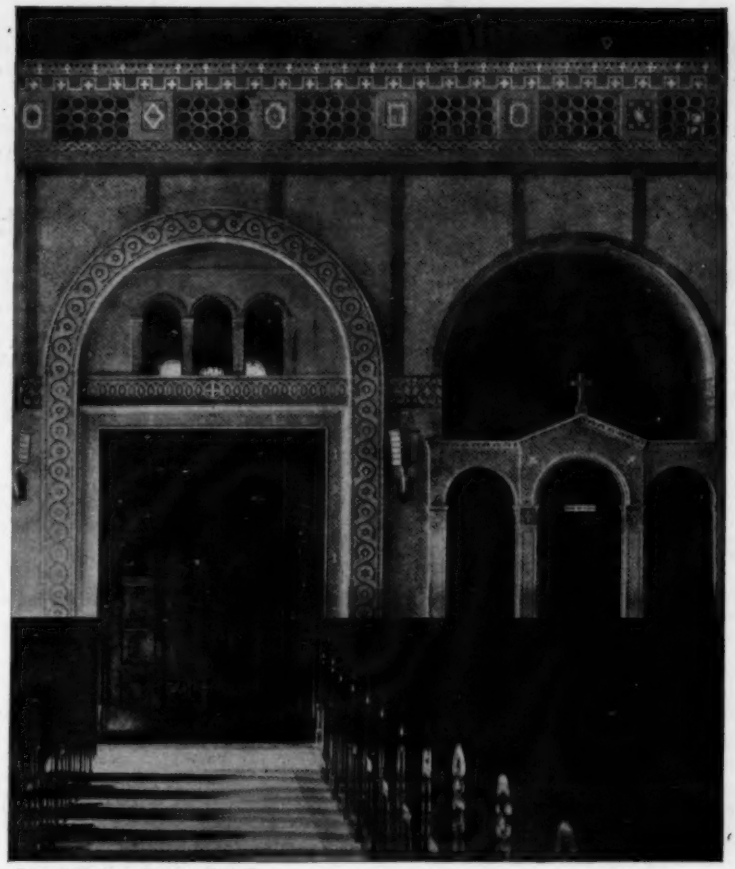
The Inness House, Los Angeles.
MR. FRANK LLOYD WRIGHT, Architect.

The Architectural Society, London University. WE are glad to note that the activities of the architectural department of the London University now include an architectural society which is run by the students as a voluntary effort by themselves. The studies of architectural landscapes, pottery and prints have just been the subject of an interesting little exhibition at University College. The handling of the pencil sketches is the best part of the collection, and we hope another year will find the students additionally keen on setting forth with sympathy and refinement some of the beauties of old and new buildings, avoiding merely pretty and sugary effects.

The Dublin School. As we reported in our last issue a representative gathering at the School of Architecture, University College, attended to hear an address to students delivered by Mr. Walter Tapper who was paying a flying visit to Dublin. The President of the University introduced the speaker, and Mr. Edwin Kennedy, President of the Ulster Society of Architects, was also present. The Dublin school appears to be making good headway both in numbers and in the quality of the work, and it is hoped that before long a similar school will be established in Belfast. The annual dinner of the Royal Institue of the Architects of Ireland had to be cancelled owing to the serious illness of the President, Mr. F. G. Hicks, who, we are pleased to hear, is now making progress towards recovery.

A Dublin Exhibition. AN Ideal Home Exhibition has just been held at the Mansion House, Dublin, which forms an ideal setting for a small exhibition of this kind, since it is possible to centralise the band and the smaller stalls in the large rotunda, which is provided with a gallery, while other exhibits, such as furniture, model bungalows, and also tea and retiring rooms, can be arranged in the surrounding halls, which are well adapted to the purpose. The actual house designs shown were few in number, but excellent in quality, and of the firms exhibiting fittings, paints, etc., some 90 per cent. were either prominent local firms or firms exhibiting for the benefit of their local agents. The Irish furniture exhibit represented a high standard of craftsmanship, although the modernist might like to see some bolder adventures and experiments in modern design.

Bad Design. THE ideal home can never be achieved until a better standard of simplicity and design is reached by some of the firms making linoleum, arranging colour scheme panels, and until more discrimination is shown in the manufacture of cheap stained glass. This weakness was much in evidence in this exhibit as elsewhere. It is astonishing that, whereas it must be at least as cheap to make linoleum in good plain colours or in chess board and geometrical patterns, yet the surface of this material is ingrained with the most elaborate and gawdy devices of roses, hollyhocks and delphiniums that could be imagined. It is possible that the ineffective use of colour may be the last bastion of villadom to stand out against improving taste, although it is encouraging to note that the colours on the market show a distinct improvement. If it be argued that the public taste in this direction is still bad, then we are entitled to ask the firms concerned to help to raise the standard where it lags most behind.



From "The Ferro-Concrete Style."

Shrine of the Sacred Heart, Washington, D.C.
MESSRS. MURPHY & OLMSTED, Architects.

The Preservation of the Countryside. THE acquisition of 380 acres of land on the road to Badingley by the Cambridge Preservation Society at a total cost of £22,300, removes a danger from the countryside to the west of Cambridge. This purchase, however, and other purchases made by the Oxford Preservation Society, are causing a certain amount of alarm among those who are anxious to see our countryside preserved. There is a danger that the public may expect that the only way to preserve open spaces is by spending money, whereas the example set by Lord Astor, Lord Desborough, and others in the Thames Valley, shows that it is possible by the co-operation of land owners to protect amenities without a penny being spent It is also feared that prices in some cases may be unduly increased where societies are known to have substantial funds. In one case the committee of a voluntary society was busily bidding for a certain stretch of land against the local city council, and the error was only discovered in time to prevent a sale at an inflated price. The view taken by experts in Whitehall and by the Council for the Preservation of Rural England is that much more may be done by the cordial co-operation of owners.

Ferro-Concrete Design. THE development of ferro-concrete building is an important feature in building industry now. In some respects it affords opportunities which are used with very good and even fine results, but it leads at times to some curious and unpleasant vagaries in design, which are anathema to architects well versed in traditional design. In a book lately issued in New York by the Architectural Book Publishing Co., entitled "The Ferro-Concrete Style," by Mr. Francis S. Onderdonk, Jr., there is much variety to be found, from which we take two examples. The Innes House, Los Angeles, shows how impressive a result may be produced in the hands of a capable designer like Mr. F. Lloyd Wright. Another suggestive illustration is the shrine of the Sacred Heart, Washington, by Messrs. Murphy and Olmsted, architects, and Mr. J. J. Earley, sculptor.

GENERAL NEWS

Professional Announcements.

Lieut.-Col. H. P. Cart de Lafontaine, A.R.I.B.A., has transferred his practice to new offices at 11, Suffolk-street, Pall Mall, S.W.1 (telegraphic address, "Fontartect, Piccy, London"; telephone number, Gerrard 8528).

Mr. T. Herdman Rae, F.S.I., chartered quantity surveyor, has taken new offices at Lloyds Bank Chambers, 55, Fawcett-street, Sunderland. ('Phone 1226.)

Mr. Ralph Knott's Estate.

Mr. Ralph Knott, F.R.I.B.A., who died last month, aged 50, left £160, with net personalty nil. He left his property to his widow.

Royal Scottish Academy.

Mr. Walter G. Grieve, painter (Edinburgh), and Mr. Alex Carrick, sculptor (Edinburgh) have been elected Associates of the Royal Scottish Academy.

Hospital for Leicester.

The Leicestershire County Council have decided to erect a new hospital at Markfield, at a cost of £106,500. It will provide for 126 tuberculous patients and 54 fever cases.

Wolfe Memorial.

The First Commissioner of Works has been approached by the High Commissioner for Canada with regard to the erection in Greenwich Park of a memorial to General Wolfe, to be presented by Canadian subscribers. The design and proposed site of the memorial have been submitted to, and approved by, the Royal Fine Art Commission.

Barking Church.

In a letter to the Press, signed by several prominent persons, including Sir John Burnet, R.A., and Professor W. R. Lethaby, attention is called to the condition of this church. "The timber roof and the stone work of both tower and church," it is stated, "are urgently in need of repair. After a thorough survey, the work is estimated to cost £6,000. It is in the competent charge of Mr. C. C. Winmill, F.R.I.B.A., with the wholehearted support of the Society for the Protection of Ancient Buildings." An appeal is made for financial help. Cheques may be sent to the Vicar, and should be crossed "Barking Church Repair Fund."

Injunction for R.I.B.A.

Mr. Justice Clauson, in the Chancery Division, on Tuesday, February 19, had before him a motion for judgment in default of defence in the action, Royal Institute of British Architects *v.* Wakley.

The Institute claimed an injunction restraining the defendant from using the letters "F.R.I.B.A.," or any other letters, in a way calculated to lead to the belief that he was in any way a member of that body, and his lordship granted the injunction asked for, with costs.

Mr Herbert Hampton.

Mr. Herbert Hampton, sculptor and painter, has died at his home, The Place, Great Bardfield, Essex, at the age of 66 years. Educated at Bishops Stortford College, he received his art education at Westminster, at the Slade Schools, London, and in Paris. His portraits include one of Queen Mary, and others were those of Sir Henry Irving and Lord Kelvin. Among his sculptured works are the Queen Victoria memorials for Ipswich, Lancaster, New Zealand, and India; statues of King Edward and King George for India and London, and many others.

Mr. J. K. Hunter, F.R.I.B.A.

The death has occurred, at his residence at Ayr, of Mr. James K. Hunter, F.R.I.B.A. For many years he practised as an architect in Ayr, and one of his recent works was the restoration of the ancient Church of St. John on Fort Castle, undertaken by the Marquis of Bute. Mr. Hunter designed the Ayr Town Hall and the War Memorial, a cenotaph in Wellington Square. A native of Ayr, he was in 1927 President of the Glasgow Institute of Architects, and at his death was a member of the Council of the R.I.B.A.

"Save the Countryside" Exhibition.

At the R.I.B.A., 9, Conduit-street, W., on February 25th, at 4.30 p.m., the Rt. Hon. J. Ramsay MacDonald, M.P., will open the C.P.R.E. Exhibition, illustrating the disfigurement of the countryside and how it can be remedied, also the work of many of the societies helping to preserve it. The meeting will be open to the public. The exhibition will be open until March 9th daily, 10 a.m. to 5 p.m., Saturdays, 10 to 5 (March 4th, 10 to 2 only), admission free.

On February 25th, at 8.30 p.m., Mr. S. H. Hamar, secretary of the National Trust, will speak on the work and aims of the National Trust.

On Friday, March 1st, at 8.30 p.m., Dr. Vaughan Cornish will give a lecture on "The Enjoyment and Preservation of the Countryside," with lantern slides.

On Friday, March 8th, at 8.30 p.m., Mr. C. A. M. Skewers, F.S.I., of the Pure Rivers Society, will lecture on "River Pollution." These meetings are all public.

MEETINGS

SATURDAY, *February* 23.

Architectural Association. Mr. H. M. Robertson on "The Architecture of the Future." 3 p.m.

MONDAY, *February* 25.

Portland Cement Selling and Distributing Co. Dinner to meet winner of Concrete House Competition. Savoy Hotel. 7.15 p.m.

Bartlett School of Architecture. Mr. F. E. Drury on "Fundamental Details of Construction for Reinforced Concrete Buildings." 6.30 p.m.

Architectural Association. Mr. Campbell Dodgson on "Architectural Etchings." 8 p.m.

Council for the Preservation of Rural England. Disfigurement of the Countryside Exhibition. Opening by the Rt. Hon. J. Ramsay MacDonald. At 9, Conduit-street, W.1. 4.30 p.m.

Council for the Preservation of Rural England. Mr. S. H. Hamer on "The Work and Aims of the National Trust." 8.30 p.m.

WEDNESDAY, *February* 27.

Central School of Arts and Crafts. Sir Banister Fletcher on "Sir Christopher Wren and his Works." 6 p.m.

Liverpool Architectural Society. Mr. A. Trystan Edwards on "An Ideal Industrial Town."

Royal Society of Arts. The Preservation of Ancient Cottages. General meeting in connection with the Fund for the Preservation of Ancient Cottages. 3 p.m.

THURSDAY, *February* 28.

Incorporated Institute of British Decorators. Mr. W. E. Greenwood on "The Decorations of the Golden House of Nero." 8 p.m.

Bartlett School of Architecture. Mr. W. G. Tarrant on "Estate Development." 6 p.m.

Geffrye Museum. Mr. F. Skull on "Collecting Unusual Specimens of Old Furniture." Kingsland-road, E.2. 7.30.

Chiswick Polytechnic. Mr. W. H. Ansell on "Leadwork and Glazing." 7.30 p.m.

Institution of Structural Engineers. Mr. Adam Hunter on "Erection of Bridges." 6.30 p.m.

West Yorkshire Society of Architects. Professor T. H. Hughes on "Great Houses of France." 7 p.m.

Carpenters' Hall Lectures. Mr. E. Guy Dawber on "The English Countryside and Cottages—Old and New." 7.30 p.m.

COMPETITION NEWS

Proposed Mental Hospital, Ardee, Louth.

Louth County Council invite architects to submit designs for a mental hospital. The assessor is Mr. Geo. P. Sheridan, F.R.I.A.I., A.R.I.B.A. Conditions may be obtained from Mr. Charles McAleester, secretary, Louth County Council, Court House, Dundalk. The last day for questions is March 30, and designs have to be sent in not later than June 15.

Tiling the Bernhard Baron (Children's) Ward, Middlesex Hospital.

The Board of the Middlesex Hospital invite competitive designs for the general tiling and picture panel decoration for the Children's Ward in the new hospital. Names and addresses of intending competitors must be forwarded to Walter Kewley, the House Governor, the Middlesex Hospital, W.1. The donor of the Children's Ward, Mr. Bernhard Baron, offers a prize of £150, which will be paid to the successful competitor, whose designs will become the sole property of the Board; but the Board does not bind itself to make use of the designs. All designs sent in will be submitted to the Building Committee, who will act as judges and whose decision must be accepted as final and binding on all competitors. Diagram elevations of each wall to ½-in. scale will be supplied by the architect to competitors, who can, if they desire, visit the site and see the ward which is already built.

The following drawings are required from competitors to illustrate their scheme :—

(*a*) Key of whole scheme to ½-in. scale (plans supplied).

(*b*) Sketch cartoons in colour of all picture panels, ¼ full size.

(*c*) Sketch perspective of a corner of the ward.

The materials to be used will be 6 in. by 6 in. glazed tiles. Designs, packed flat, must be sent in by mid-day on Tuesday, April 30, addressed to the House Governor, accompanied by a sealed envelope containing the competitor's name and address.

Municipal Buildings and Market Hall, Ellesmere Port.

We are informed that the sending-in date for this competition has been extended to March 1. There are 119 competitors.

ENGLAND'S OLD MANSIONS.

SIR BANISTER FLETCHER, F.S.A., F.R.I.B.A., in the second of his series of lectures on English Renaissance Architecture at the Central School of Arts and Crafts, described some of the noteworthy mansions which have come down to us from the Elizabethan period. With the aid of diagrams and lantern slides he set forth the salient features of these old mansions. In plan, he said, they were based on the plans of the preceding Tudor period, which were chiefly closed quadrangles, but these were modified so as to have a less defensive character, as this was the age of prosperity, when it was no longer necessary for houses to have a military character. The plans were therefore expanded into "E" forms, with middle projecting porches and end wings; and "H" types, with end wings projecting both ways. The houses had, generally, an air of welcome, and were characterised by the frequency and largeness of windows, thus ensuring ample lighting, as in the case of "Hardwick Hall—more glass than wall." Montacute, Kirby Hall, Charlecote, and other examples were illustrated, as also was Speke Hall, exemplifying the timber type with "magpie" treatment and overhanging stories. Elizabethan town houses were referred to, and, among others, Charterhouse was briefly described.

CORRESPONDENCE

The Building Trades Parliament.

SIR,—Now that great attention is being given to schemes having industrial peace and the reorganisation of industry as their objects, it may not be amiss to recall an unsuccessful attempt made to secure those desirable ends for the building trade. Present circumstances differ somewhat from those obtaining when this attempt was made, and are probably more favourable to success, but its history may serve as a warning and a guide.

In 1918 the Industrial Council for the Building Industry was formed. Its sub-title was the Building Trades Parliament, and it was formally recognised by the Minister of Labour. Its book of Constitution and Rules had a preface, the first paragraph of which read as follows:—

> This Council is the outcome and expression of a desire on the part of organised employers and operatives in the Building Industry to render their full share of service towards the creation of a new and better industrial order.

The rest breathes a similar spirit.

The Council had 132 members, half of them employers and half of them operatives, or rather their representatives. From these an Administrative Committee was appointed to deal with all matters arising between the meetings of the Council. In 1921 members of professions interested in building were invited to join the Administrative Committee as consultants. The Committee was the soul of the Council.

At the very first meeting which I attended as a professional member I received a shock. I found that the spirit of the Committee belied the idealism of the preface above quoted. Between the employers on one side of the table and the operatives on the other there was a gulf which could not be bridged. The representatives of the operatives were trade union officials with mandates from which they could not recede and on which they had no power to compromise to the slightest. Their solidarity was perfect; nothing could break it. Never by any chance did one of them stray into the wrong lobby, but an employer did occasionally cross the floor. Moreover, the operatives' representatives were always there in full numbers. They were paid by their unions and had to account for their time, while the employers, heads of large concerns, were free as to their opinions and sometimes unable, through business, to attend. So the majority, when it came to voting, was always with the operatives.

To the professional members it was soon clear that no resolution of the Council had any chance of acceptance by the industry generally. Mr. George Hicks made no disguise of his opinions. "Never," he said, "will there be peace in the industry until the present capitalistic system is abolished and the means of production are in the hands of the workers." This socialistic commonplace was accepted by the operatives' representatives and is echoed in the majority report of the Sub-Committee on "Scientific Management and Reduction of Costs," in which it is laid down that the only way to end disputes in the building trade would be to throw the whole of the resources, capital and plant of the trade into hotch-potch and turn the employers into salaried managers and officials under a very nebulous scheme of compensation. Work was then to be apportioned by a committee among the various members of this great syndicate, the wishes of the building owner not being consulted. "Surplus earnings," whatever that term means, "were to go to the common service of the workers"—that is, as far as one could gather, to increasing wages and forming unemployment and pensions funds; at any rate, it all went back to the workers, and none of it found its way into the pocket of the building owner out of whom it was made. This report filled up the cup; constituent bodies began to retire from the Council, and the Council soon dissolved.

There are plenty of signs that workmen are taking a more sober view of things than they did in 1921 and are appreciating that great social revolutions work slowly. Yet it may not be useless to remember that many Labour leaders even to-day are men not only of extreme views but of force of character and great ability, and that resolutions passed at councils constituted as was that which I have described may be wholly unacceptable by the industries of the country. The problem of how to form councils which will be truly representative and whose findings shall be acceptable to employers, employed, and the country at large, is one which requires anxious and careful thought.

J. E. DROWER.

"THE BUILDER" DEBATE

Architects and the Royal Academy.

SIR,—A brief consideration of the relation of the three arts of architecture, painting and sculpture would tend to show, I think, that logically the architect is in a position of surveillance over the exponents of the other two arts, and that in a body like the Royal Academy, representing the three, he should, generally speaking, logically preside. This conclusion is confirmed the more we consider the greatest periods in the history of art.

It would be impossible to find in the Christian era a period of greater unified success in the three arts than during the Renaissance in Italy. The main causes of this were doubtless the favourable circumstances conducing to consistent and unbroken endeavour, and to the intellectual stimulus provided by the dawning knowledge of the classical world; but it is also probable that no small part of the success was due to the close co-operation of architect, sculptor and painter, and that they were often to be found in the one person. Until Antonello da Messina introduced oil-painting into Venice, and Giorgionne, a little later, commenced the fashion of the easel picture, painting and sculpture were regarded only as architectural arts kept subordinate to an architectural scheme. And it is not too much to say that painting and sculpture have flourished best when they have been so regarded. The Italian masterpieces of painting from Duccio and Giotto to Leonardo, and the masterpieces of sculpture from the Pisanos and Donatello to Michelangelo were mostly included in some architectural scheme and comprehended initially by an architectural design. Painting is, after all, primarily a decorative art—not a literary art as so many Victorians seemed to think—and flourishes best when this is realised. We are beginning to learn our lesson from Renaissance Italy and to understand how much the well-being of painting and sculpture depends upon the conception of them as architectural arts. This is shown in the revival of interest in fresco painting, and in bas-relief sculpture. The best modern sculpture is architectural, and I have little doubt that in a few years the same will be said of the best painting.

In the widest consideration of the matter, then, based on the greatest collective achievements of the three arts, *architecture comprehends and includes painting and sculpture, the painter and sculptor in their rightful functions composing certain details in an architectural design.* The architect, therefore, should generally be the controlling mind, and this order of things should be reflected in a representative body like the Royal Academy. That is not to say that a painter whose artistic genius towers above his contemporaries, and who, by his general abilities and understanding of the functions of the various arts, is eminently fitted for the presidency, should not so preside, but such is not the case at present. In my opinion, and I speak as much as a student of painting as of architecture, there are at present two architects who as artists are superior to any living painter.

ARNOLD WHITTICK.

SIR,—The first thought on reading "Positive's" interesting reply is that he evidently did not read the final paragraphs of my article, which were wholly concerned with the subject of reform. And I think in any case he mistakes change for reform. I advocated reform, though distasteful of his proposals for change. If I shuffle a pack of cards they still remain the same pack, as I think the Academy also is likely to remain the same if you change only the profession of President. Reform, such as I suggested, means far more than this, and is required before the remedy proposed.

"Positive," in claiming architecture to be the art of reality, confuses substance with reality. The reality we have to seek is no less included in painting and sculpture than in architecture. Nor must he read into my article, what is in no way either expressed or intended, that I think less of architects than painters, etc.; the needed reforms apply to them all.

Changes in administration are not necessarily the reform of administration. "Positive" tells us we are most likely to find a solution by architecture in a "completely equipped practitioner of eminence." Shade of Vitruvius defend us! What a vile phrase! But why? Because architecture is nearer to reality. Is the reality of some very recent building we can think of in his mind when talking of reality; surely a reality we are more concerned to avoid? "Positive" thinks the change can be made by a president of a different profession, whereas I am sure that change will only come by creating it. He no doubt sees "the completely equipped practitioner of eminence" at our doors waiting to be appointed. I do not, nor do I think the time favours any such proposal, meaning, as it would, merely the change from one official to another. I grant the many exceptions to the indictment, and to whom nothing of the kind applies. Imagine, then, a transformed Academy controlled by these "completely equipped experts," extending its scope to make it representative of the allied arts of architecture. For there is another side which must also be looked at. Does "Positive" see no danger of the persistent "lobbying" which may ensue. Would the doors to the Academy, with such possibilities of advertisement, resist their pressure long? This is a situation one must foresee. The painters and sculptors, having yielded their patrimony to the art of reality, might they not suffer from too large a dose of it?

For at least the Academy, however merely fortuitous its relation to art, does preserve a certain level of craftsmanship, and it may also be generally accepted that the work shown is executed by the artist showing it, but would this be so any longer? I do not think the times favour changes of this kind. Let us have an architect now and then, but not claim all sort of superstitious views about him—as it won't make much difference, being little more than the change from one profession to another.

And that brings me to the fundamental misunderstanding — "Positive's" attitude, which sets too much on that perilous unreality that the great man, the "inspired artist," is forthcoming, and that we have only to turn him on to do for us vicariously what it is "Positive's" task and the task of all of us. Should we ever recognise this great man so easily? I doubt it. This notion that a change of machinery will help us, that we must be changing something, is only part of the restlessness of to-day. As evidence of a deep dissatisfaction on his part I respect his desires and solutions, but there is much work for each of us to do first before effectual change in the temper of the Academy will alter itself.

NEGATIVE.

MODERN BANKS.

At Monday evening's meeting of the R.I.B.A. (the President, Mr. Walter Tapper, A.R.A., in the chair), Mr. J. Alfred Gotch, Hon. M.A. (Oxon), F.S.A. (Past-President), read a paper on "Modern Banks, with Special Reference to the New Midland Bank Head Office." The first thing to be done, he said, in starting a new branch, or in building new premises, was to get a suitable site. This had to be found, if possible, in the busiest part of the town, and, again, if possible, at a prominent corner; and this for two reasons: to have a conspicuous building, and obtain light from two sides, for a cheerful, well-lighted bank was desirable both for the sake of the staff and for the encouragement and satisfaction of the customers.

The internal arrangement was quite simple. There was the public space, readily approached from a small vestibule that checked undue draughts. This public space was anything from 7 to 10 ft. wide, and had the counter along one side and a wall (probably the external wall) along the other, against which were a small writing table, a seat, and an umbrella stand. The counter was at least 4 ft. wide in order to prevent undesirable reaching over on the part of the public. The cashiers stood behind it within an enclosure which kept out all intruders, and preserved the space for them alone. Below the counter top were tills, ingeniously fitted to hold in safety the various denominations of notes and the silver, and also a number of drawers, and in the enclosing screen behind the cashiers were small cash cupboards, one to each cashier, in which bags of silver or copper were stored ready for use, and where any documents or important papers could be placed until suitably disposed of. Immediately behind the screen was the ledger desk, with the small ledgers of all the customers upon it, and where the vouchers, cheques and other matters handed over by the cashiers were dealt with. Each cashier had 6 ft. length of counter space to himself, furnished with identical fittings. The space behind the ledger desks was taken up with clerks' desks, each clerk having 4 ft. of working space. There was also a sealing table and a pass-book cupboard. In addition to this apparatus for carrying on the routine work of the bank, there was the manager's room, a sanctum wherein the manager could see customers in private on all kinds of matters. This room had to be readily entered both from the public space and from behind the enclosures which separated the public from the staff; and it was not always easy to determine whether it should be placed handy to the entrance or at the farther end of the public space, a position which enabled anyone interested in the matter to note the expression on the customer's face after his interview with the manager. The solution of the problem, as a rule, depended not so much on this consideration, as on those of providing the general accommodation of the bank in the most convenient way.

The most important feature in a bank, from the practical point of view, was the strong-room. This must be both fire-proof and burglar-proof. It must be convenient of access, either on the ground floor or in the basement. If the exigencies of ground floor space required that it should be in the basement, a suitable lift had to be provided to hold the special trollies upon which the books were transported. The strong room itself must be of a size large enough to hold a safe, deed boxes, customers' plate chests or other valuables, and, indeed, anything that required safe custody. It was desirable to isolate it, that was, to surround it with a narrow passage, enabling complete inspection to be made when desirable. The width of the passage being only 18 in., there was insufficient room for the free working of burglarious implements. Upon the construction of the strong room depended the safety of all the bank's cash and the property of customers. Bars to windows gave an added sense of security; and publicity—that was, an avoidance of external spaces that were out of observation—was a great deterrent to nefarious operations. But, after all, with a suitable strong room the burglar might be defied. Strong room doors were now impregnable, and they had satisfied themselves that with walls, floor and ceiling of suitably reinforced concrete, no burglar could effect an entrance during the longest period that a bank was likely to be left unoccupied. There was no advantage, as it used to be thought, in having the manager living over the bank. So clearly had this been established that many branch premises were of one story only, the view being held that a bank should be an entity to itself, and not have its individuality lessened by shops or offices in connection with it. "We are bankers," it was said, "not property owners." Against this idea it was sometimes urged that a loss of revenue was entailed, and of course in large towns it was generally good policy to provide offices, particularly if they could be let to important customers.

In addition to the accommodation already indicated there must be store rooms for stationery and vouchers, and also suitable lavatory accommodation. The store-rooms, and more especially the basement, ought to be absolutely dry and properly ventilated. To obtain a dry basement was not always easy, but it could generally be secured by providing what might be thought of as an asphalt-lined tank, one in which the asphalt lining was absolutely without a break. When the necessary cross-walls, concrete staircase and area windows were taken into consideration, it required some ingenuity to contrive such an unbroken lining.

The most convenient way of heating was by low-pressure hot-water pipes and radiators; such as could be repaired if necessary by local plumbers. Some managers pleaded for an open fire in their own rooms, and when the flue could be taken up with the heating flue there was no great difficulty; but, as a rule, an open fire was discouraged, if only from the fact that it entailed a second kind of fuel with separate storage place. The heating chamber was either in the basement, or was sunk just deep enough for the boiler to do its work. In either case, particular care must be taken to make it water-tight; otherwise, early in some winter a message would come that the heating chamber was flooded, and they could not get a fire.

As to the design of the exterior, probably everyone would have his own notions. But the view that commended itself to him was that a bank should look like a bank; it should suggest the stability and safety of the company; it should inspire confidence in the customer, and attract his approval; but not be so grand or ornate as to cause him to think that money was being extravagantly spent. He confessed that he was not a great believer in the doctrine that a bank ought to conform closely to the style of the town in which it was built. If it was quietly and sensibly designed it would not jar with anything; on the contrary, it would add zest to the appearance of the place. One quality most serviceable to the banking business in any direction was common sense. When they first began to design for the Midland Bank the idea that held the field was that as soon as a stranger set eyes on a branch building he should at once recognise it as a Midland Bank. The consequence was that there was a general family resemblance among many of the designs, but the particular circumstance of each site produced variations of the general type.

In the interior he was persuaded that no great architectural effort was desirable, and certainly nothing that in any way would hamper the daily work of the staff. People did not go into a bank to admire architecture, but to transact their business and go away. So the aim should be to fill their subconsciousness with a sense of convenience, spaciousness, cheerfulness and harmonious colouring. But if a customer was alive to something more than this, and took a look round, the detail should be sufficiently good and careful to interest him.

Referring to the Midland Bank, the head office in the Poultry and Princes Street, the lecturer said that while his partners and himself were responsible for the general conception, for the plan, for the detailed arrangements worked out in constant consultation with the heads of the Bank, for the control of the operations, and the numerous negotiations necessary in carrying out a building on such a site, they had had the invaluable collaboration of Sir Edwin Lutyens in regard to the façades and the decorative details generally. Further, the work from day to day, and the emergencies that had continually arisen, had been dealt with by his partner and nephew, Mr. Laurence Gotch, who spent most of his time on the spot, and discussed and put into practicable shape the requirements of the various departments of the Bank.

The supervision of so many separate businesses as he had mentioned, and of the buildings in which they were carried on, implied in itself a considerable staff. But this was only one of the many departments which had to be accommodated in head office. The requirements necessitated six floors above ground and three basements, with a total floor space of something like seven acres. The bulk of the work was, of course, clerical, and was carried on by clerks, all of whom had their particular and limited functions to perform. But there was a great army of them—approaching 2,000 in number, with a possible increase to 2,900—and they had officers over them with varying responsibilities. Or to change the simile to one more peaceful and appropriate, the concern might be likened to a great factory with managers of the many different departments, and ultimately controlled by a board of directors. From this idea it followed that the bulk of the space at command had to be clear floor space, as open as possible, and with as few columns as the construction would allow, well lighted, heated and ventilated. But it must not be thought that the rooms were finished in the bald manner suitable to a factory. The floor space being clear, it could be divided by partitions to suit any conditions that might be found necessary, and only in special cases need these partitions be more than about 6 ft. high, with the result that the rooms were light and airy. As a matter of fact three of the floors were arranged in that way.

On the fifth floor was the board room, a large apartment 71 ft. long, 28 ft. 6 in. wide, and 28 ft. high. Here there seemed to be an opportunity for great architectural display, but common sense asserted itself, and all those concerned, the future users of the room and designers, were insistent that it should be as nearly as possible perfect for sound;

that with a board of directors numbering something like 50, every person, no matter where he was sitting, should be able to hear the chairman and his co-directors speaking in an ordinary conversational voice. They consulted Mr. Hope Bagenal, and, acting on his advice, a result had been achieved which was already highly satisfactory, and would, he believed, be completely so when the room was finished and finally furnished. The principles adopted were quite simple. The room was a plain oblong with no projecting architectural features. The ceiling was curved to a particular radius, was perfectly plain and of hard material, which reflected the sound downwards. The walls were panelled for about half their height, the panelling inducing a certain amount of resonance. Above the panelling the walls were to be hung with tapestry, which would absorb the sound waves, and the floor was to be covered with a thick carpet, which also would prevent reverberation.

But the board room, of course, was not the only place where the consideration of acoustics was important. The ground floor, where busy operations were liable to cause much clatter, and the clerks' rooms, where typewriters and other labour-saving machines were continually clicking, required particular attention; but by the use of cabot quilting on the ceilings, and a non-resonant material on the floor, the difficulties were surmounted, and in none of the rooms was the noise distracting. Even the sounds from the street were muffled. In the telephone rooms, cabot quilting on the ceilings, acoustic plaster on the walls, and a rubber covering on the floors had served to engender what was described as an almost uncanny quiet.

Having briefly indicated the arrangement of the six floors above ground (the building was illustrated and described in our issue for October 7, 1927), the lecturer said that below ground there were three floors of basements, two of which were chiefly devoted to enormous strong rooms, while the third and lowest was mostly given up to engines, boilers, ventilating plant, and all that was accessory to them. Part of the first basement—the one immediately below the ground floor—was set apart as a safe deposit for the storage of customers' own papers or other valuables, and there was a series of cubicles or small private rooms to which customers could have their deed boxes brought for private and leisurely inspection. This department was approached from the banking hall by a handsome marble staircase, and its cheerfulness was increased by a light-well in the middle of the floor space of the banking hall.

Each strong room, or group of strong rooms, was what might be called an island —that was, it was surrounded by a corridor for perambulation, so that it could be under continual observation. The corridors were protected by grilles, through which only a very limited number of persons had a right or possibility of access. The strong rooms varied in importance, from those which contained bullion to those in which the books were kept when not in use. For the easier and safer handling of the bullion, there was a large lift upon which the lorry that brought it could be lowered to the strong room.

Messrs. Holland and Hannen and Cubitts were appointed as building managers. They prepared a time-table carefully worked out so that there was no interval between the work of the various trades. As soon as one trade finished it was immediately followed by the next. They were not to do any of the work themselves unless it were to fill the place of some sub-contractor who was behind time. Obviously this entailed elaborate organisation, and it had worked on the whole successfully, with the result that progress had been astonishingly rapid.

The site occupied by the first section had to be cleared, and the basement excavated to a general depth of over 40 ft., and in parts to 60 ft. This excavation had to be converted into a huge water-tight tank, of which the floor was a reinforced concrete raft, to carry the building, and the sides were concrete retaining walls. The concrete was itself water-tight, but, owing to old buildings having to be preserved and shored up, a good deal of temporary work had to be installed, and the water which thereby found its way in had to be pumped out. The existing bank, for instance, had to be supported while part of the permanent new structure was erected under it, for a distance back of 10 ft. in parts. Thanks to the skill of the consulting engineers, Sir Douglas Fox & Partners, all this work was done without disaster or even accident. But beneath part of the site meandered the subterranean Wall brook, and one could not plump down a huge water-tight tank into the bed of a stream without something happening. What exactly did happen, and how it happened, it was impossible to diagnose accurately, but whether from the diversion of the stream, or the necessary pumping operations, but certainly not from the giving way of the earth, complaints of cracks appearing in adjacent buildings began to come in. These, of course, had to be investigated and settled. Other complaints of later date had to be tactfully handled, for it was impossible to say definitely whether or not building operations that had been carried on for a year or two were responsible for new cracks in buildings some distance away. Incessant watch had to be kept on all the adjoining buildings, and anything requiring attention had to be dealt with at once.

Discussion.

Mr. Arthur J. Davis, proposing a vote of thanks to the lecturer, referred to the Continental method of banking, which, he said, was quite different from the English. On the Continent they did not use the cheque as we did, and the result was that they had a much larger public space. Also, they had, what was not usually found in the English bank, a safe deposit in the basement, where people could go and examine their valuables. The Westminster Bank did not believe in the rubber floor, because when people were writing out a cheque they objected to others creeping up silently behind them. Consequently that bank had adopted marble for its floors. With regard to foundations, the Westminster Bank, in their Lothbury building, had had the same trouble as the Midland had experienced. Their solution was the sheet piling method, which consisted of a metal tank without a bottom, inside which a retaining wall was built. With regard to strong-rooms, none was sufficiently strong to resist attack if the burglar was given sufficient time. He had been asked if it were not possible to make a bomb-proof strong-room, but he inquired whether it was to resist the 1914 bomb or the 1940. No one knew what explosives would be used by that time, so it was no use attempting to secure a bank against them. The best kind of strong-room wall, in his opinion, was one built of concrete reinforced with layers of expanded metal.

Mr. Frederick Hyde seconded the motion.

Mr. L. M. Gotch, supporting, said they were having a safe deposit at the Midland Bank with inspection boxes, to which clients could go and pore over their belongings. With regard to acoustics, the quilting mentioned, which had also been used in the board room, had reduced the reverberation of sound waves by several seconds.

The vote of thanks was carried with acclamation, and Mr. Alfred Gotch, in the course of a brief reply, said that, with regard to strong-rooms, it was only a matter of time for a burglar to break through anything. One could, however, make strong-rooms safe for the period of time during which banks were likely to be unoccupied.

The meeting concluded with the presentation of prizes to the winners of the R.I.B.A. Competition for a Design for an Aerodrome.

THE BUILDING CRAFTS

THE first of a series of six lectures on "The Building Crafts," dealing with "Masonry and Brickwork," was delivered by Mr. W. H. Ansell, M.C., F.R.I.B.A. (President of the Architectural Association), at the Polytechnic, Bath-road, Chiswick, W.4, on Thursday, February 7. The lecturer said that primarily the object of the lectures was to show the relationship that existed between the crafts and architecture. When he was first studying architecture, every period seemed to be linked up with kings and queens, and curiously enough every period finished on exactly the same date as the kings died. To his mind the whole matter was very much interwoven with history. Architecture and building were great aids to the study of history, and he was certain that any historian who desired to give a true picture of any period of the world's history would learn more about the people of any time through the study of their buildings than he would from many of the written documents. Personally, he liked to study architecture from the point of view of the man who constructed the buildings. Again, that was not the whole of the matter. One had to go further than the constructional points; one had to see how the builder had vaulted his roof, and when he had built his high walls and turned his great arches, one had to find out what he was aiming at. To start with the emotions and neglect the construction was foolish. It was a good thing in architecture to get down to the facts of building. It was only by facing constructional facts that one would get a true conception of architecture and of the principles that underlay the construction of any building. It was only by looking at the buildings of the past that they could judge and get a reasonable point of view of the buildings of the present. The degree of separation of designer and craftsman was not always the same. In some ages and some fashions they were as the poles asunder, while at other times they approached so closely as almost to merge the one in the other. To his mind the finest architecture was to be found when the alliance between the two was closest, when the master-mind was so in sympathy with the executive power as to be in constant touch; when the designer thought in terms of craftsmanship, utilising materials and shaping them as the craftsman knew they should be utilised and shaped, while in his turn the craftsman worked with a sympathetic mind towards the grand conception of the whole as well as with the interest which, naturally enough, he took in his own little part. At one time the two were combined in the one person. The primitive builders solved the problems that came before them with never a thought that they were designing at all. They simply built in the way that they knew, using the materials at hand, little thinking that they were in the movement that should give to architecture its principal forms.

The relationship between designer and craftsman was not the only thing to be considered. It mattered, and mattered very much, how the builder stood to the great body of his fellows, and to his patrons and employers. The building might have been carried out by slave labour, under cruel compulsion and close supervision, as in all probability were carried out the Egyptian temples; or the craftsman might be the servant of a king or baron, compelled to do his work, and depending upon him for protection and for livelihood—to some extent his property, living in vassalage, if not in serfdom; or the builders might be free craftsmen employing their lives, their skill, in supplying the needs of their fellows, also freemen, and when that happened the work seemed the true expression of a free people.

The lecturer proceeded to give an historical survey of architectural development from the time of the Greeks upwards, illustrating his thesis with lantern slides.

ILLUSTRATIONS

PLATES

Leeds University: Mining Block.

This, the first block to be erected under the programme for the extension of the University of Leeds, will be devoted to research in the various forms of mining operations. The large laboratory on the ground floor is to accommodate heavy plant for crushing and sorting; other rooms provide for assaying and testing ores, etc. In the basement a long trunk will be placed for experiments in ventilation, while on the second floor is a large drawing office and a lecture room. The building is faced with Portland stone and will form part of a group comprising the Physics and Chemistry Departments, which are shortly to be erected. The work is in the hands of Messrs. William Airey & Son; the steelwork has been carried out by Messrs. Leonard Cooper, Ltd.; the floors by Kleine Flooring Syndicate, Ltd.; and the contract for electric wiring, etc., has been secured by Messrs. Waring, Withers & Chadwick. The consulting engineer for the heating and ventilation is Mr. A. H. Barker.

The architects are Messrs. Lanchester, Lucas & Lodge, FF.R.I.B.A.

Imperial Chemical House.

This new building is described on page 385. Sir Frank Baines, F.R.I.B.A., is the architect, with Mr. Alfred Cox, F.R.I.B.A., as associate hitect.]

"Windy Ridge," Bickley, Kent.

This house was designed by Mr. F. Sutcliffe, for his own occupation. The dominating motive, it will be seen, has been simplicity; all woodwork is in oak, the doors throughout are flush finished, without panels or mouldings, but relieved by a 2 in. inlaid veneer; the floors of the principal rooms and hall are of narrow oak boarding, whilst those of the first floor are covered with thick cork tiling. The h.m. pantry, larder, cloak room and bathrooms could be cleaned by means of a hosepipe without detriment to these rooms. All rooms are planned so as to obtain the maximum of sunshine during the times they are mostly occupied. All the living rooms and the principal bedrooms are warmed by an installation of central heating.

The main staircase, which rises from the hall, has been very simply treated and terminates on the upper floor with three arched openings, where it joins the long plain corridor. The wide chimney recess or ingle, which is finished out in oak, forms the chief note of interest to the living room. The windows to principal rooms have been glazed with a glass admitting ultra-violet rays. Internally, the whole of the walls are decorated throughout in practically one colour.

Externally, the same quiet dignity has been aimed at by the long, low, simple lines of the house, the walls of which are finished with a special roughcast, and the roofs covered with varied green Westmorland slates, terminating with a wide eaves projection, which throw a deep, but transparent, shadow effect, obtained by the white walls.

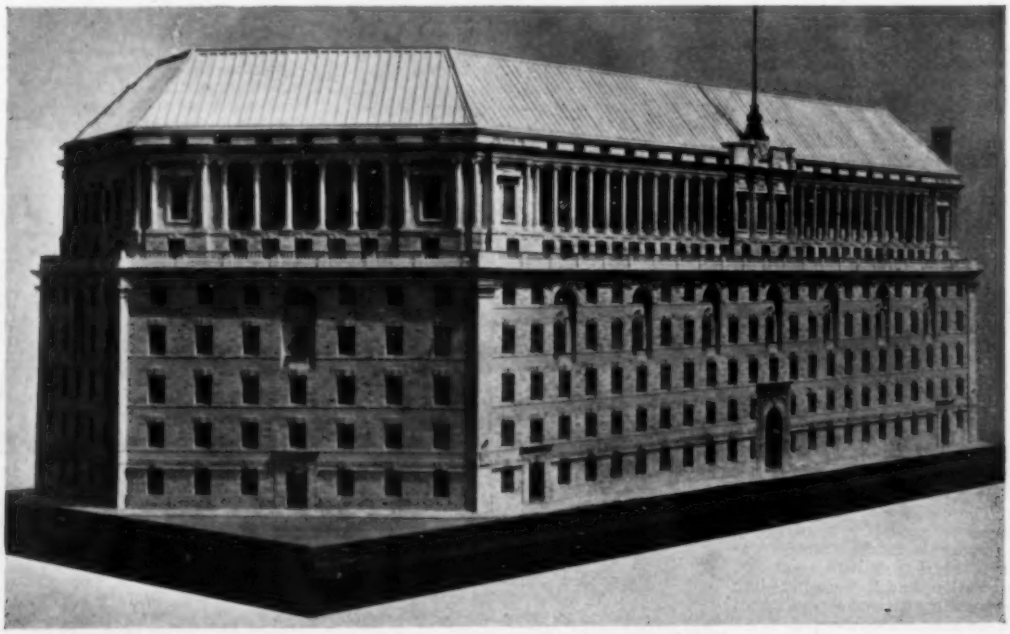
THE LONDON SOCIETY

IN the hall of the Royal Society of Arts on Friday last, Sir William Collins, K.C.V.O., in the chair, Colonel Vaughan-Morgan, M.P., delivered a lecture on "Open Spaces and Playing Fields for London." The problem which they had set themselves, he said, was the triple one of providing open spaces in the midst of some of our great centres of population; of providing playing-fields for children and for young men and women; and, finally, of providing, by means of town-planning schemes, that as country districts were gradually invaded by the ever-encroaching town, they should be developed in accordance with a regional plan, making adequate provision for those amenities of town life which had in the past been sadly overlooked.

Having surveyed the development of open spaces in London from early times, and described the present activities of various local authorities and private individuals the lecturer said what had been done was most encouraging, but it would be idle to claim that we had done more than touch the fringe of the great problem. What, then, should be done to meet this grave situation? In the first place, he thought it must be recognised that the problem should be dealt with in relation to the needs of Greater London as a whole, and not of any particular district therein. There was no possibility whatever of securing within London proper the land that was needed if our ideal of providing five acres of open space to every 1,000 inhabitants was to be realised. The land for that was not available within the inner zone.

What was needed was the preservation of large areas accessible to the present population of inner London, and not so distant as to involve prohibitive fares. The ideal of a green girdle round London was a most attractive one, but it was difficult to conceive how it could ever be attained unless the local authorities were willing that the saving of this belt should be made a common charge, if not on national funds, then at least on the whole of the counties concerned in the development of London. Not a few carefully worked out schemes for the reservation of large areas of public and private open spaces were likely never to be carried out if the cost had to remain a charge upon the local community, and, of course, it was an open secret that some councillors viewed with a certain amount of short-sighted disfavour proposals which would prevent land from coming into the building market and so helping to swell local rateable values.

The problem was not one for isolated action, and one of the most gratifying features of recent developments in connection with the movement was the formation by Mr. Neville Chamberlain of a committee which was engaged in working out a scheme for regional town planning and co-ordinating the efforts of the town planning authorities and of the county councils. Under the latest Town Planning Acts, certain valuable powers were accorded to councils. A local authority was given that very useful power of letting, for purposes of recreation, any land reserved as a playing-field or reserved as a private open space and converted into a playing-field. He hoped that in every town-planning scheme steps would be taken to schedule ample areas of land for recreation, and in forming an estimate of what ought to be scheduled regard should be had, not so much to the actual necessities of the moment as to the probable needs of the community in twenty or even fifty years time.



Imperial Chemical House, Millbank, S.W.: From a Model by Mr. John B. Thorp.

SIR FRANK BAINES, F.R.I.B.A., Architect. MR. ALFRED COX, F.R.I.B.A., Associated Architect.

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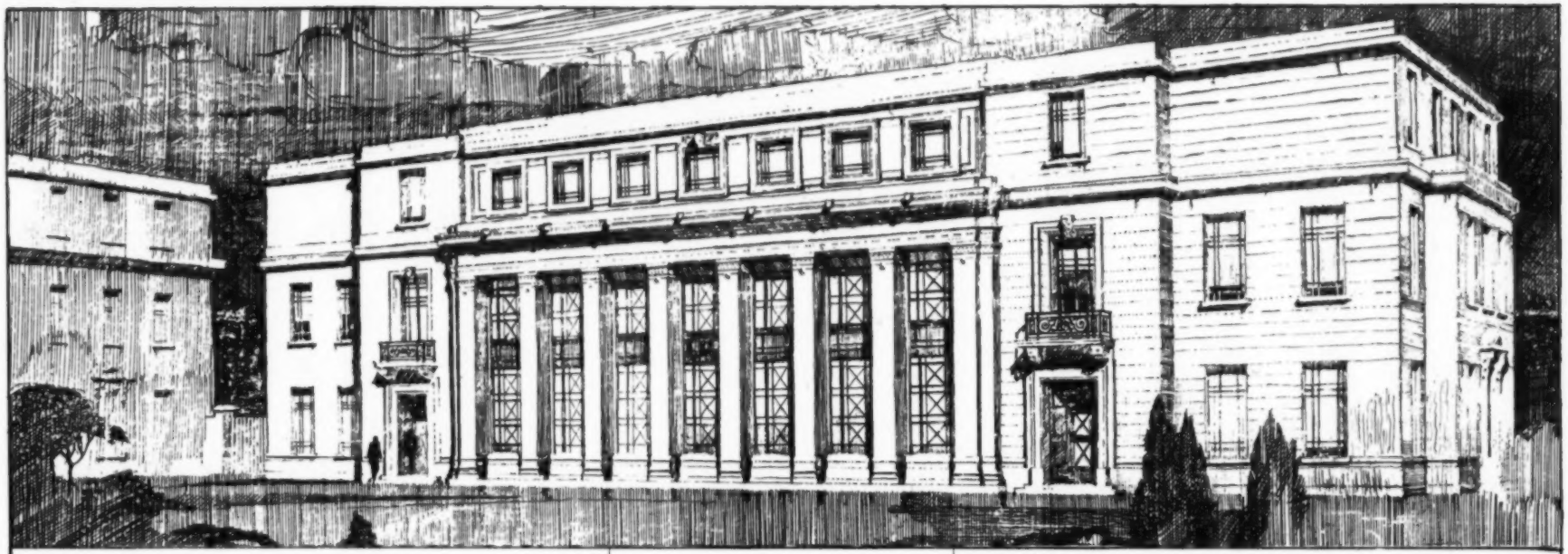
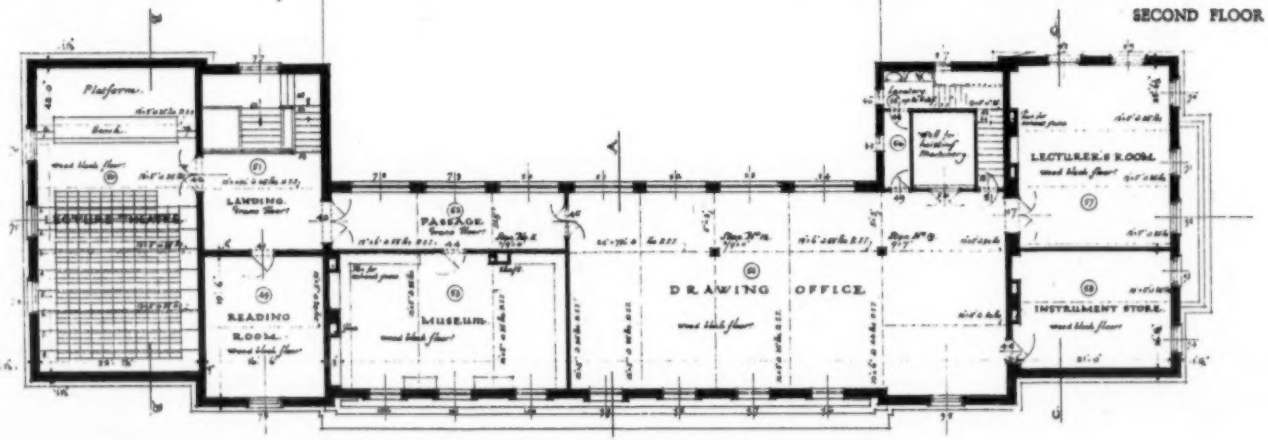
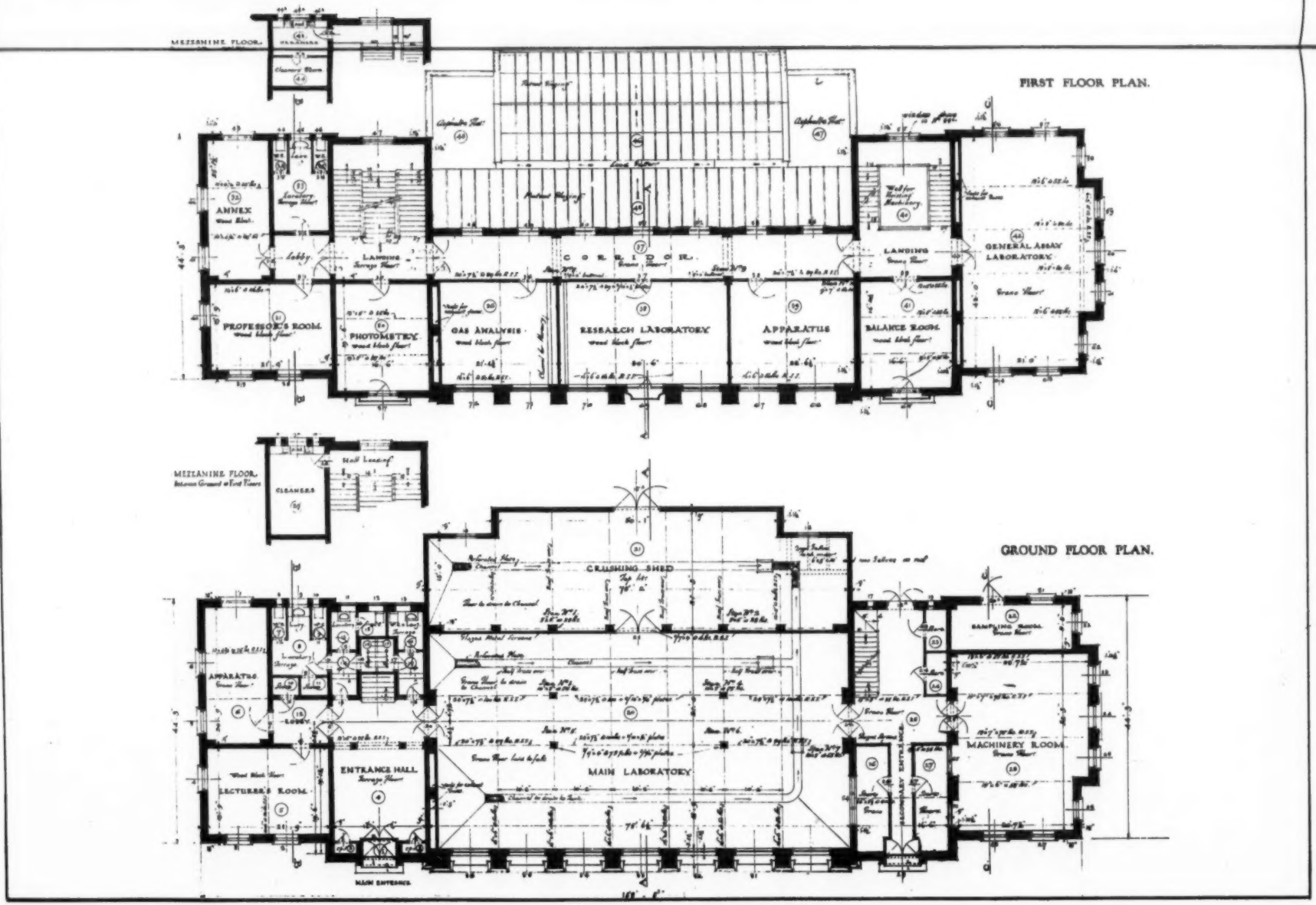


SECOND FLOOR PLAN.

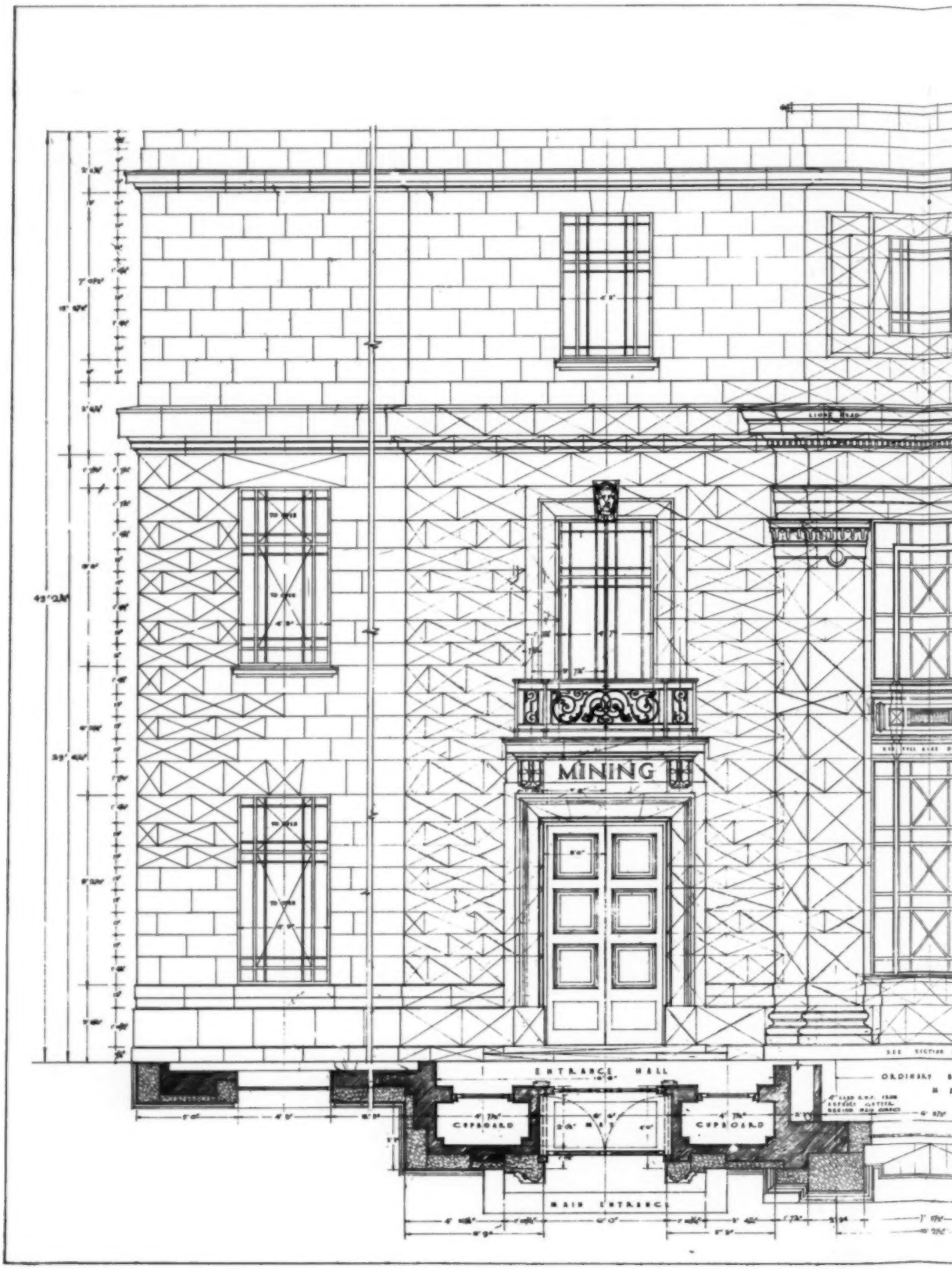


MEZZANINE FLOOR.

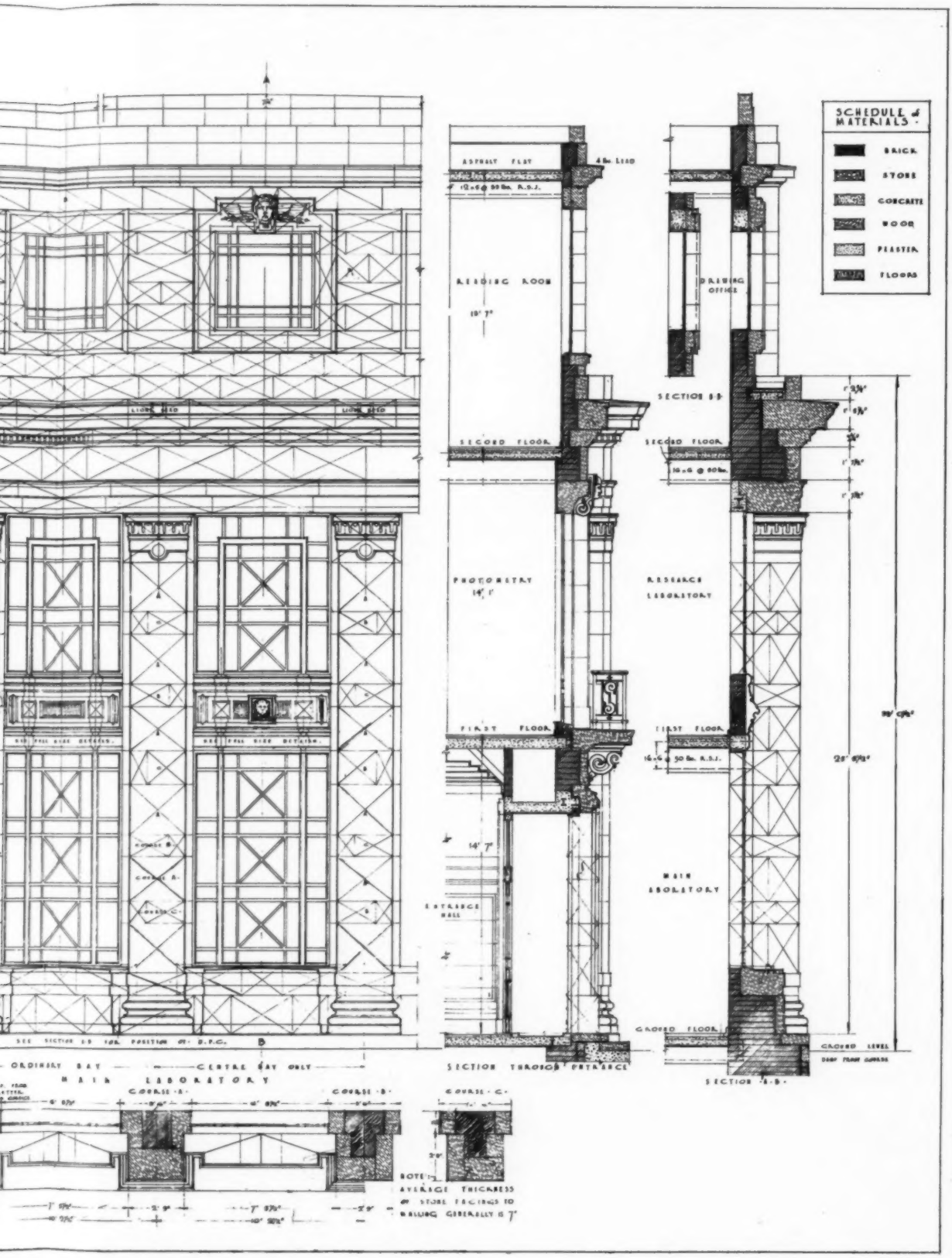


THE UNIVERSITY OF LEEDS: MINING BUILDING.

Messrs. Lanchester, Lucas & Lodge, FF.R.I.B.A., Architects.



THE UNIVERSITY OF LEEDS:
Messrs. Lanchester, Lucas & Lodg



TY OF LEEDS: MINING BUILDING.

Lucas & Lodge, FF.R.I.B.A., Architects.

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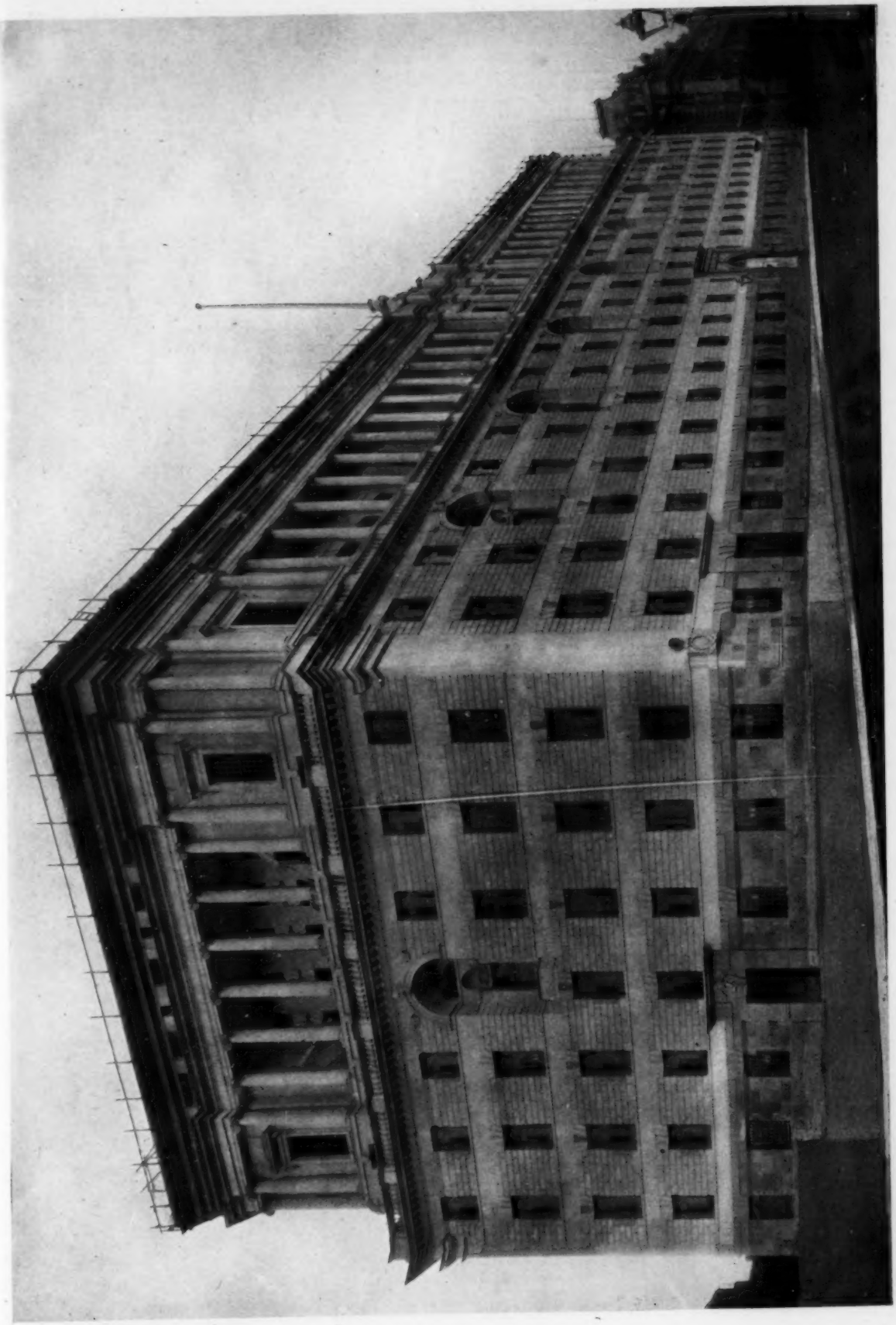

Imperial Chemical House, Millbank, S.W.: General View.

SIR FRANK BAINES, F.R.I.B.A., Architect. MR. ALFRED COX, F.R.I.B.A., Associated Architect.

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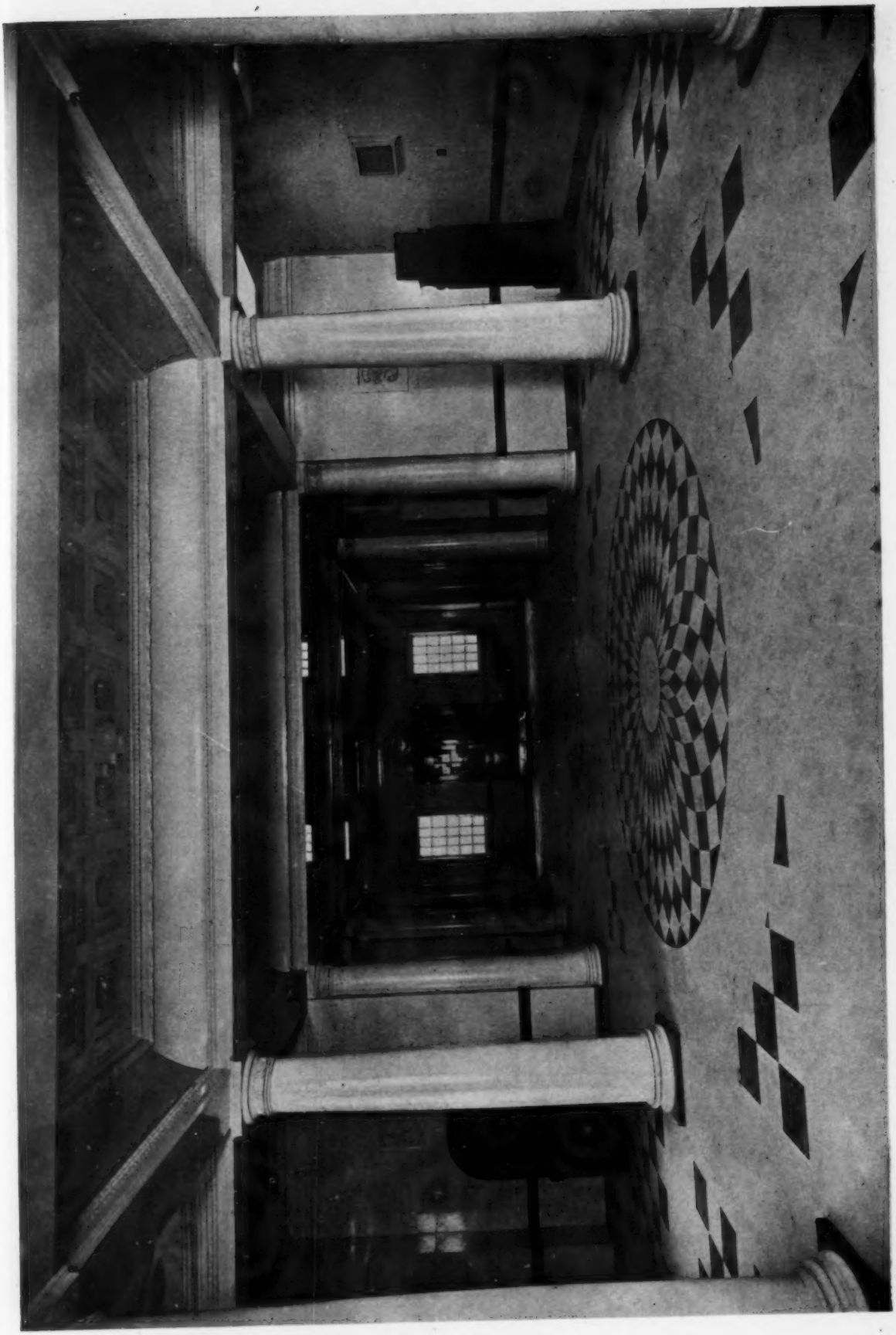

Imperial Chemical House, Millbank, S.W.: Entrance Hall.

Sir Frank Baines, F.R.I.B.A., Architect. Mr. Alfred Cox, F.R.I.B.A., Associated Architect.

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Imperial Chemical House, Millbank, S.W.: Board Room

SIR FRANK BAINES, F.R.I.B.A., Architect. MR. ALFRED COX, F.R.I.B.A., Associated Architect.

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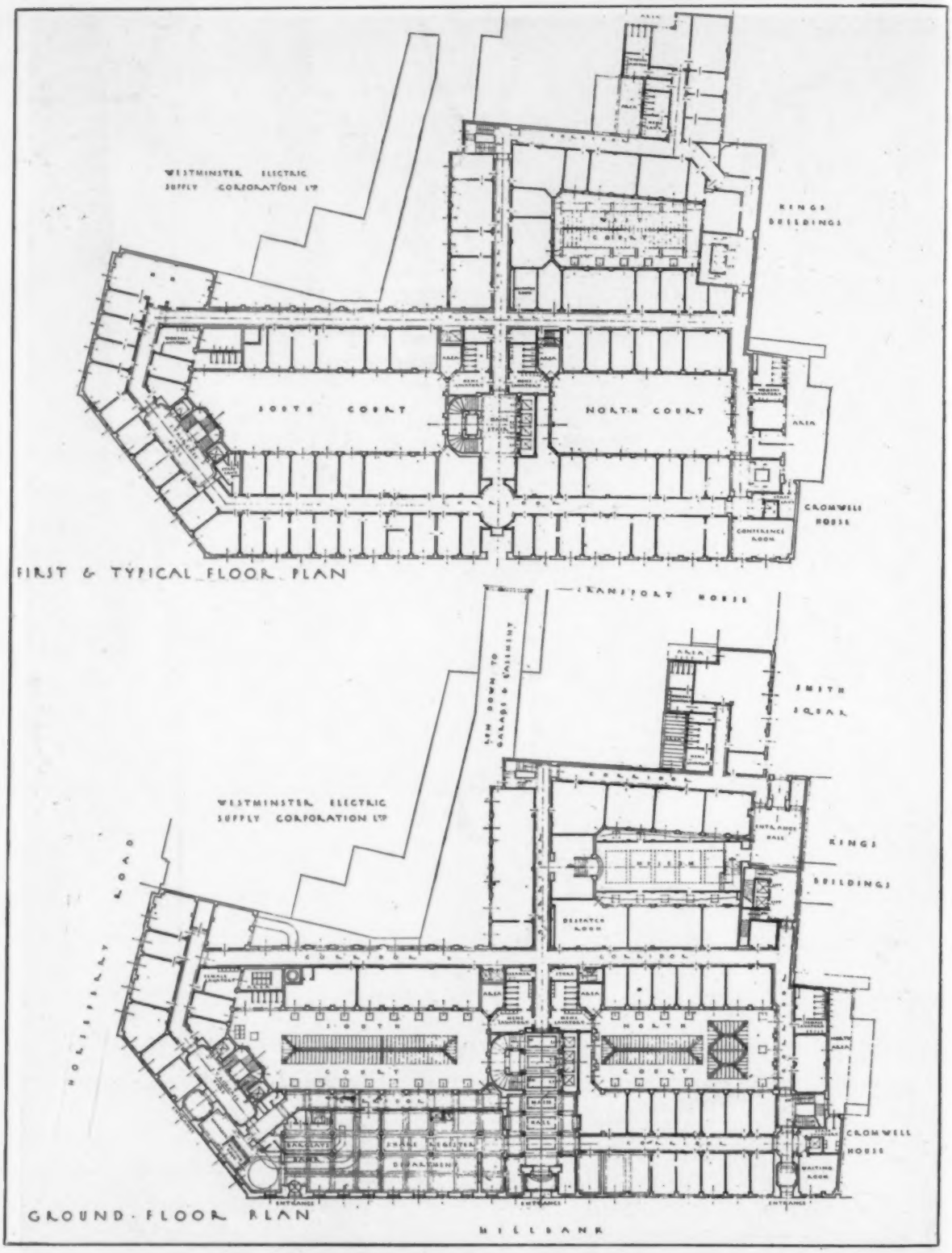

Imperial Chemical House, Millbank, S.W.

SIR FRANK BAINES, F.R.I.B.A., Architect. MR. ALFRED COX, F.R.I.B.A., Associated Architect.

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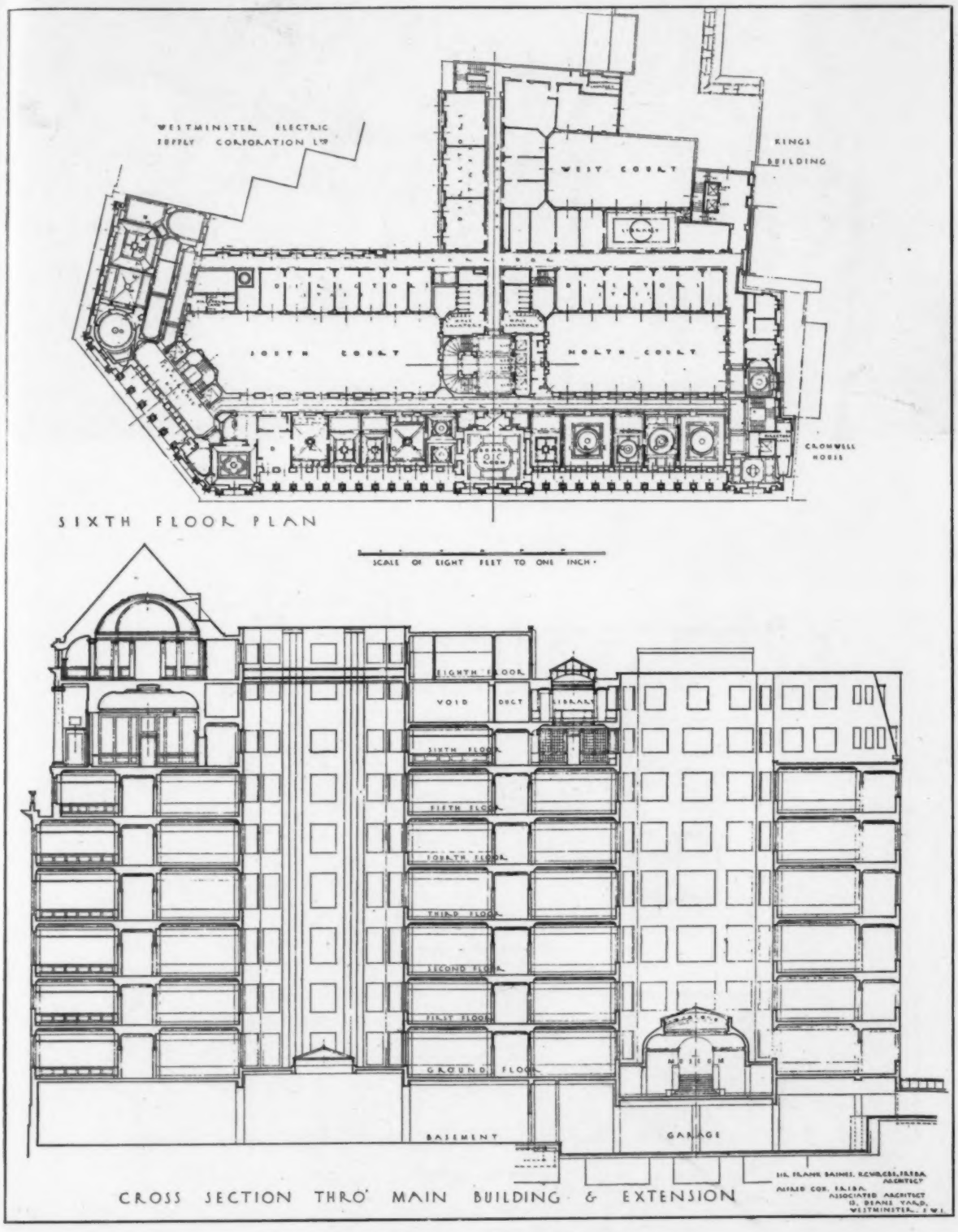

Imperial Chemical House, Millbank, S.W.

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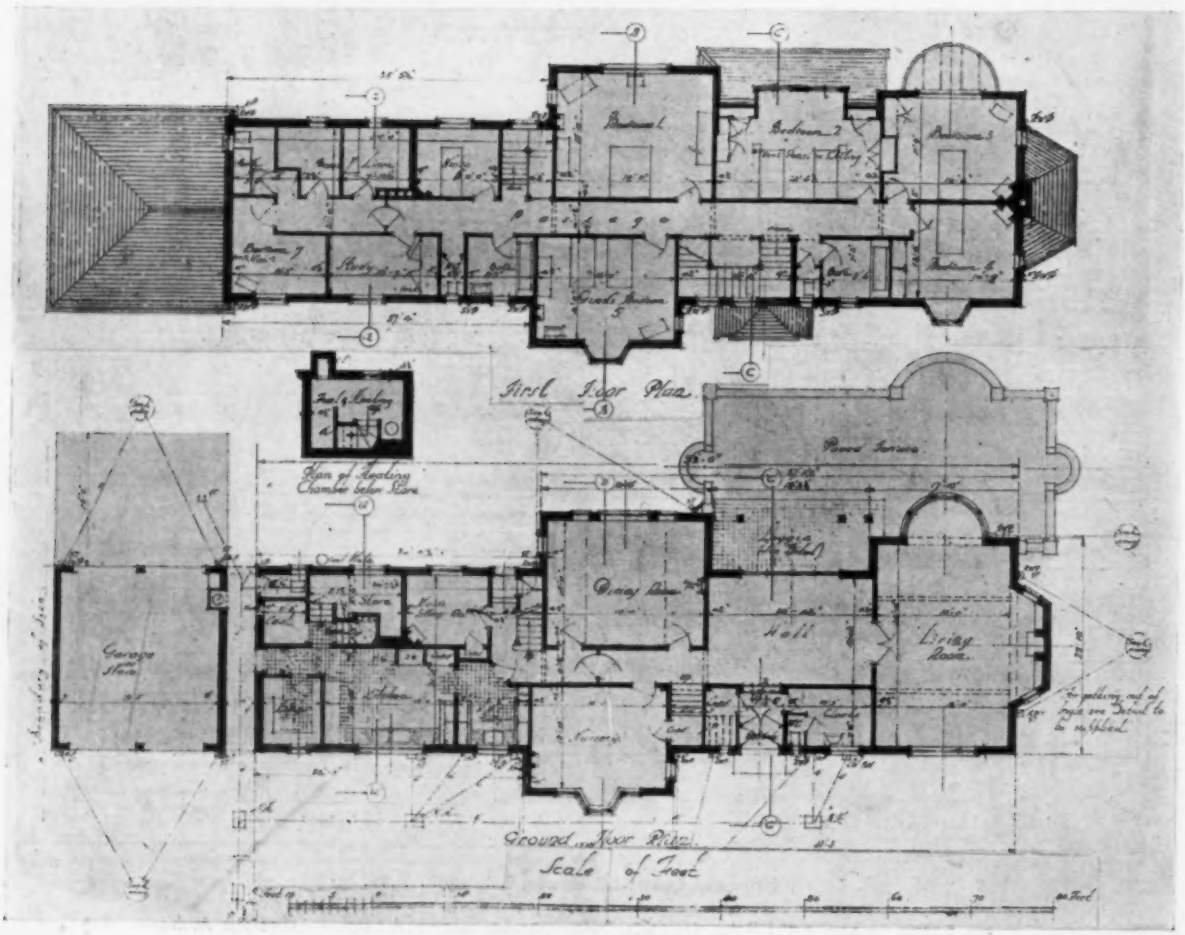
ENTRANCE FRONT.



"Windy Ridge," Park Farm Road, Bickley, Kent.

MR. F. SUTCLIFFE, F.R.I.B.A., Architect.

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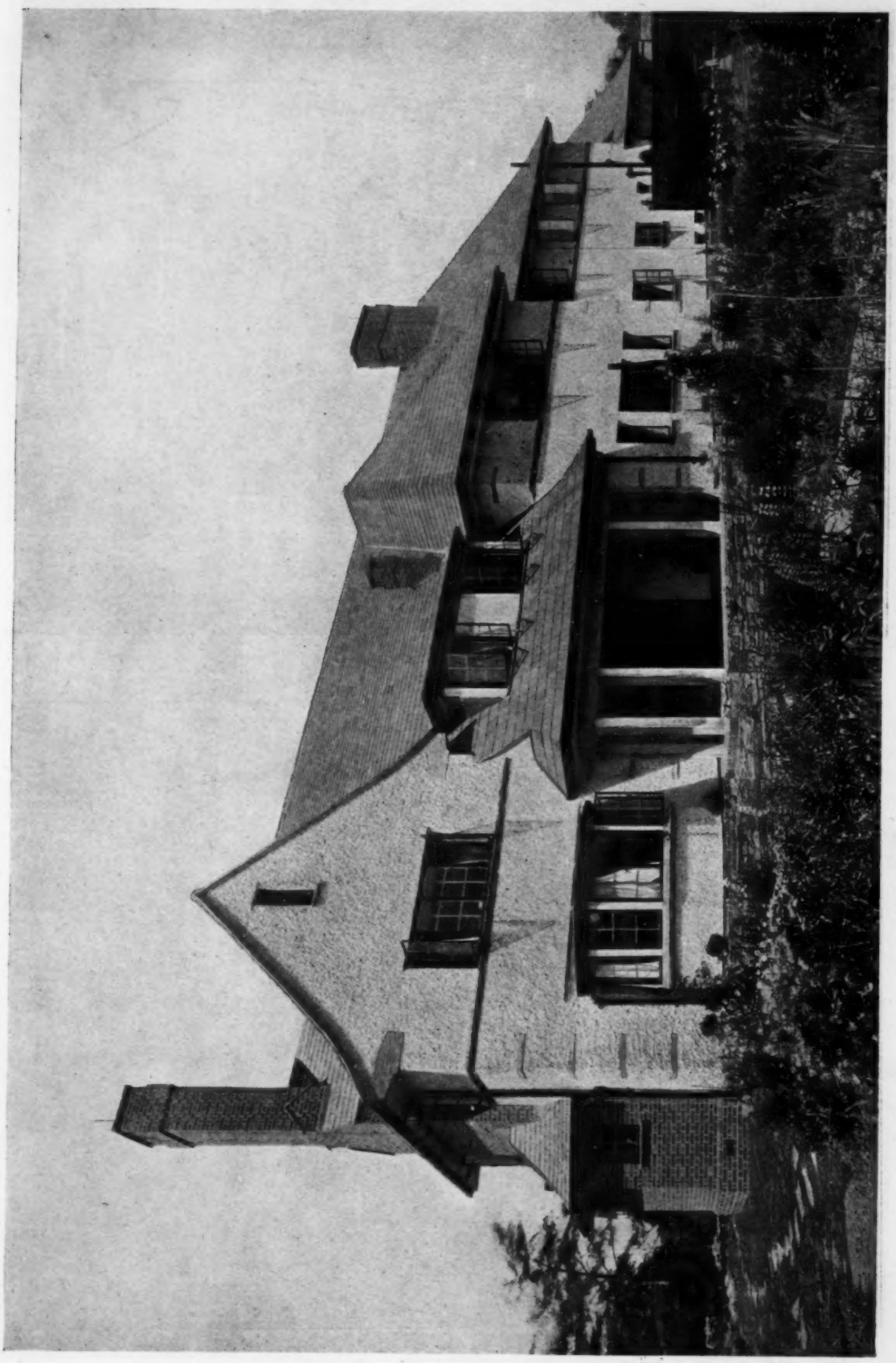
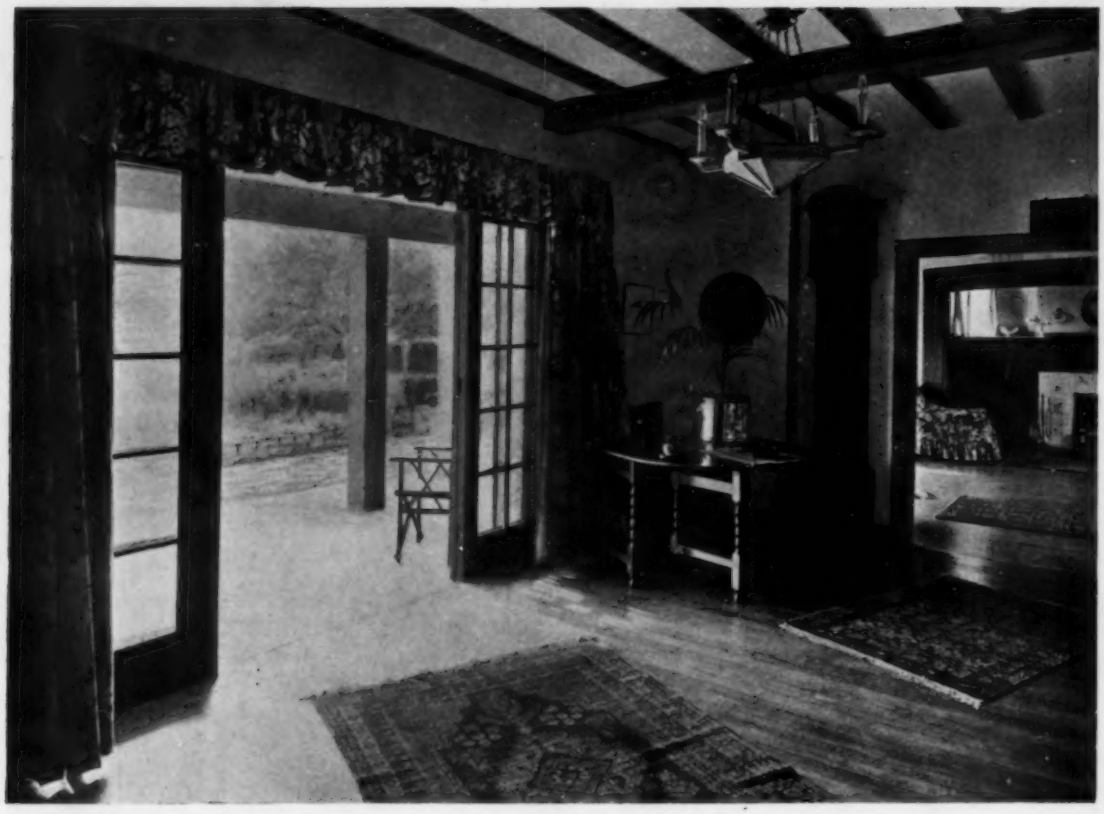


"Windy Ridge," Park Farm Road, Bickley, Kent: Garden Front.
Mr. F. Sutcliffe, F.R.I.B.A., Architect.



HALL, LOOKING INTO LOGGIA.

DINING ROOM.

"Windy Ridge," Park Farm Road, Bickley, Kent.

MR. F. SUTCLIFFE, F.R.I.B.A., Architect.

APPLIED CRAFTSMANSHIP—III.

By REGINALD HALLWARD.

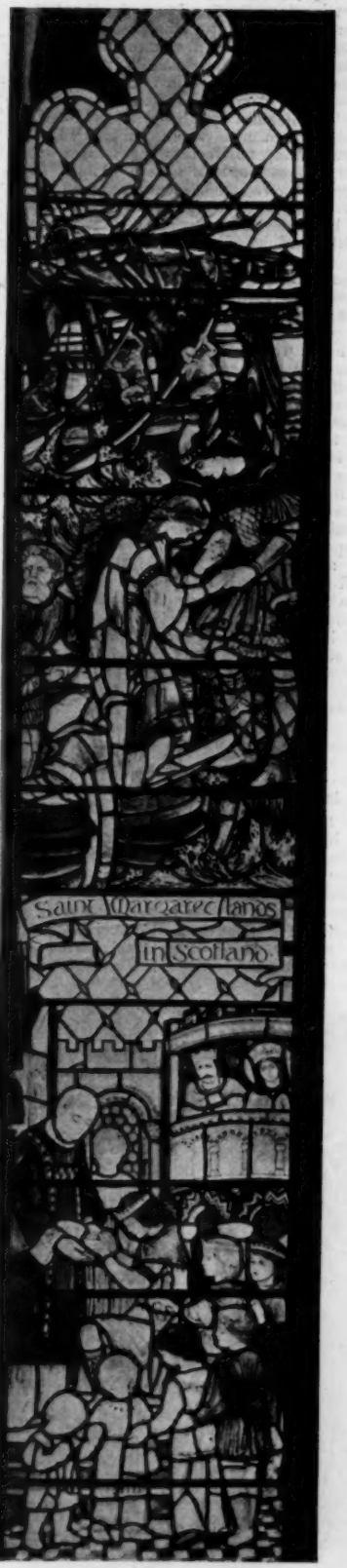
It would seem as though everything had been said about the art of stained glass, and that it is more than gratuitous to add to it. Whether as an art, as a craft, or as a commerce, the subject has been turned inside out. So that it is only in some new and hitherto unexplored directions there would seem anything useful to be said. Besides, there are not lacking those who would ask us to believe that stained glass is but a survival, which could only be true were there no further interpretations possible through a material of extraordinary range and adaptability. The same might really be said with equal want of truth of every other craft. If the material (glass) were found now to be defective, and there was any validity in that nonsensical idea that there was any secret lost, there might be some excuse, but the variety of glass available now is much superior to that of the 14th or 15th century, both in range and colour. I wish it were possible to kill this fiction, out of which the brains are altogether departed. And this leads me to look for directions through which some of these morbid views about the art have achieved acceptance. The Gothic Revival—which did not revive Gothic—will account for a good deal, for until the new impetus towards a more endowed interpretation arose to dispute the conventions and the abuses that that time entrenched, there was little to dispute it. Stained glass then was but a more or less disingenuous survival. It was Christopher Whall, and others associated with him, who brought to it once more the genuine impulse of the artist. Proving what seems so obvious, but is almost wholly disregarded, that only the artist can encourage art, that the manifold alternatives cropping up periodically, Royal Fine Art Commissions and all the rest of it, are but the symptom that art lacks the more real encouragement, i.e., the integrity and vision of the artist's endowment, for which these former are but the poor and debatable alternatives. At the same time if the people do not know their right hands from their left, in this matter of appreciation, and, in addition, have as a legacy from feudal times such timidity and self distrust regarding any official, or official body, as necessarily endowed to execute their wishes better than then they could themselves, we shall be dosed by further organisation.

We have talked so much about art, because it is so far easier than talking of what really more concerns us. The subject when brought within its real bearings, which are concerned not with art, but with the artist, is more treacherous ground. Art in the abstract is far easier, as it commits us to so little, and being remote from life, there is not much challenge in it. But when we come to the artist, on which the whole matter really turns, there is a sense of awkwardness and even a sort of challenge in it. I think that stained glass is better interpreted—like any other art, in fact—when we interpret the artist's outlook, by looking at its effect on his work, leaving art in the abstract to shift for itself.

The design for a window, if a figure one, must direct us to the reality and significance of the human interest, which ornament, colour, etc., must not make us neglect. How often do we see figures in stained glass only identifiable by their labels, and appearing merely as clothes props for draperies. So thinking of life from the beginning, and with nature for inspiration, the artists' footsteps will be sure. In such a way the best glass has yet to be done, for are we not heirs of all the ages?

Then we come to the full scale cartoon, and what a source of stumbling this has been among the most eminent. We can see through the fissures of their degrees and decorations how eminent persons have left reality behind them, neglecting craftsmanship, and the cartoon completed, have washed their hands of the business. Now the cartoon is not intended to conciliate the client or to enable us to avoid the real work of a window, but is the working drawing required to enable us to make it. The window is the thing, and all else is preliminary and but a stage towards it. Yet how often has the cartoon been made the comparatively easy finish of the whole matter, leaving the rest to others? From the hour of its completion one may watch the general declension of value culminating in the window itself. Assuming the

Cartoon for Memorial Window, St. Anselm's Church, Hatch End, Pinner.
By MR. LOUIS DAVIS.



Part of the St. Margaret Window, Tonbridge School Chapel.
By the late C. W. WHALL.

artist to be inspired, the cartoon will only be a stage towards final realisation through the glass itself. If made the full realisation, its interpretation left to others, such delegation means a process of deterioration accelerating as the window approaches completion. We sigh when remembering what the master's own hand, had be inspired by direct craftsmanship the window itself, would have given us. We are reminded of this when looking at Burne Jones' windows. For you cannot separate these things so much, conception and execution must go hand in hand, and though truly corporate work is both possible and desirable, it is the spirit which animates it which is the highest matter.

The design and the full scale cartoon completed, we come to the making of the cutline, by placing tracing cloth over the cartoon, and so marking out the separate divisions of the glass. From this pattern the glass is cut and forms the basis of the leading. This very important part of the work being the bones and articulation of the window is a good test of the artistry of the designer. Without good leading there can be no good window, for leading is not the imposed necessity of joining the glass together only, but an additional beauty formed out of an independence to the exact forms, for a design quality of its own. The consideration of how far we should follow the shapes and outlines, can only be judged as we appreciate the possibilities of the material and structural requirements, but to run the leads, varying in thickness, boldly down and across draperies, etc., is the acceptance of leading as an added beauty in addition to structural use. The thin glass of poor quality and weak leading accompanies poverty of invention and design, however much it call itself traditional.

In my next article the subject of painting and firing the glass will be considered.

Cracks in Grocers' Hall.

It is reported that slight settlements and cracks have been apparent for some time in the Grocers' Hall, in Princes-street, E.C.1. Recently two steel girders and other supports have been introduced at one side of the southern archway leading to the courtyard of the hall. The National Provincial Bank, which is now being demolished owing to insecure foundations, is also in Princes-street.

Stained glass Windows in Lady Chapel, Gloucester Cathedral.
By the late C. W. WHALL.

THE HOSPITAL OF THE FUTURE

A SHORT address on "Hospitals" was given by Mr. Arthur W. Kenyon, F.R.I.B.A., to the Rotary Club, Welwyn Garden City, on Tuesday, February 5. One of the most important factors, if not the most important, he said, was the selection of a suitable site. This factor was sometimes overlooked, and often architects were faced with the problem of fitting a hospital on to a difficult and unsuitable site and endeavouring to make the best of it. There were four factors to be taken into consideration in selecting a suitable site. The first was that it should be large enough for future as well as present requirements. Secondly, there should be a broad frontage facing south to enable full advantage to be taken of the south aspect, and the ground should have a slight fall towards the south. Thirdly, there should be access roads to the north and east as those were the natural directions of approach to a hospital, and left the south and west uninterrupted by roads and approaches. Fourthly, the grounds should be shielded on the north and east by a belt of trees. If possible, the ground should be on a high level, but must be protected from cold winds. Before one could determine the amount of land required it was essential to consider the type and size of hospital to be erected, and here he must digress a little to consider the points which governed the size of hospitals. In a recent article in "The Hospital Gazette" Mr. W. A. Pite said: "The tendency to-day, it would seem, is to secure smaller hospitals in towns where noise is daily on the increase, and to make them tributary to large hospitals in the country where fresh air can be obtained and plenty of space secured for gardens for convalescents."

This ideal should appeal to places like Welwyn Garden City, a town which was making efforts to bring works and the workers from congested and noisy towns into the better environment of the country. The size, therefore, of a hospital in Welwyn Garden City might be governed by the amount of service it would render to large towns built in a more congested way.

What type of hospital was to be built in the future? In England we had been somewhat reluctant to go into a hospital if we could possibly be treated at home. We had in the past looked upon hospitals rather as institutions. For minor ailments we preferred to be ill at home, and this very often meant the upset of the household and the possibility of a certain amount of contagion. For more serious cases we went into a nursing home. In Germany and America this was not quite the case. People in those countries appeared to realise more than we did the advantages of hospital treatment, the consequence being that hospitals were on a much larger scale. He said he had noticed in the Press quite recently that two provincial cities in England had already secured a site on their outskirts sufficiently large to build a hospital for 3,000 patients. Germany already had hospitals of that size.

Private paying patients' wards, he thought, would form a large proportion of the plan for a general hospital in the future. In Birmingham a hospital was to be built with accommodation for 750 patients and 100 paying patients—a large proportion. The inclusion of private paying wards was going to be a distinct advantage in helping the voluntary hospital, as it would be a distinct source of revenue. The initial cost, however, was considerable, because single-bed wards would mean a big leap up in nursing and administrative services, and both these services in their turn required accommodation.

Another factor which was going to increase the accommodation required in a hospital was special treatment departments. Special departments, such as X-rays, sunlight baths, therapeutics, electrical, bio-chemistry, etc., were likely to be demanded more and more, and these departments required a large amount of floor space and were expensive to construct, equip and maintain. But at the same time they were becoming an essential part of the hospital, and even in small hospitals they were finding their place. Laboratories for scientific research were becoming more and more necessary even in small hospitals. Maternity departments were also becoming part of general hospitals. Expectant mothers were realising the benefit of maternity and nursing homes, and he thought the time was coming when everyone would appreciate the advantages to be gained by maternity treatment in hospitals. Out-patients and casualty departments must not be lost sight of, as the tendency was for these departments to increase in size, owing again to the special treatment which was now administered to out-patients.

The size of wards was another problem which was greatly affecting the general size and staffing of a hospital. The old type of ward with 24 to 30 beds was giving way to much smaller wards of 12 to 18 beds and often smaller still, and the advantage to the patient was obvious, but at the same time the staff had to be increased and more accommodation for them was required. In America they were building single-bed ward hospitals, but as would be seen, this was an extremely costly business. There was no doubt that the small ward would be introduced more and more into our hospitals and that wards would become "cosy" and less barrack-like than they often were. The hospital, therefore, of the future was going to be a very efficient building and one which would provide for :—

(a) General patients who would come under the voluntary system;

(b) Paying patients who could only afford to pay a contribution towards the services rendered to them;

(c) Private paying patients who would be able to pay adequately for these services;

(d) Smaller wards;

(e) Special blocks, all of which were tending to increase the size of hospitals.

Therefore, before the size of the hospital could be determined it was essential to decide the type of accommodation to be provided.

The lecturer was not in favour of erecting temporary hospitals in this country.

Stained Glass Windows in Lady Chapel, Gloucester Cathedral.
By the late C. W. WHALL.

IMPERIAL CHEMICAL HOUSE, MILLBANK, S.W.

IMPERIAL Chemical House, the headquarters of Imperial Chemical Industries, Ltd., stands at the junction of Millbank and Horseferry-road. The frontage to these thoroughfares is over 465 ft., the splay front itself being 100 ft. long. An extension fronting on to Smith-square covers the entire space between Transport House and King's-building. The total volume of the building is over six million cubic feet, and the floor area is about 370,000 square feet. The number of rooms is 700. The building was erected in less than one-third of the normal time required for a work of such magnitude. Work on the site was started on the day following the decision to build, and the building had to be ready for occupation in two years. The preparation of plans, etc., for a normal contract could not be undertaken and a schedule of prices on a competitive basis was agreed with Messrs. John Mowlem and Co., Ltd. The rate of progress was remarkable. The main contractor aimed at laying an average of 14,000 square feet of floor per week. An output of 27,000 was actually reached, subsidiary contractors keeping pace. Work was practically continuous on the site day and night from the inception and the amount of mechanical and other equipment used was greatly in excess of normal. Temporary heating for the drying out of the building was very costly, but was fully justified on economic grounds.

Ninety different firms were engaged on the site; their activities were regulated and co-ordinated at weekly conferences, at which progress was systematically reviewed by the architect and the necessary instructions given. This system of control was mainly responsible for the success of the undertaking. No fewer than 58,000 drawings were issued for the guidance of contractors.

The general architectural order of Imperial Chemical House is English Renaissance. The ground floor elevation of the main façades is in blue-grey granite. Above this the building is entirely in white Portland stone to the ridge of the roof. On the main fronts the walls rise perpendicularly to fifth floor, where a heavy cornice is surmounted by a balustrade, the walls above this level being set back. From the sixth floor Ionic colonnades rise on the Millbank front and the splay front. The board room is situated in the middle of the Millbank colonnade. The colonnade rises through the height of the sixth floor, or directorate floor, which is over 20 ft. high.

The roof is of white stone. Its expanse is broken by raised ribs running at intervals from the eaves to the ridge, which is 145 ft. 6 in. above the basement floor. The reverse slope of the pitched roof is slated, and the roofs of the back block and extension are flat. In the main façades deep inset arches rise at intervals from the third to the fifth floor. Each arch is surmounted by a carved portrait head representing some great figure in chemistry or in the chemical industry.

The main block of the building contains nine floors and the extension eight, though street fronts of the extension rise to fifth floor only. There are four entrances (including one for Barclay's Bank) on the main fronts, and one in Smith-square. The entrance doors are of silveroid. A private access road leads from Dean Bradley-street to the main service entrance in the basement. The building is planned around three internal main courts, two (north and south) in the main building and one (west) in the extension. Entirely separate ventilating areas are provided into which lavatory blocks open. The object of the planning was the most economical use of the space consistent with the provision of light and air in all rooms. Practically all windows throughout the building are glazed with Vita glass, permitting ultra-violet rays to pass. The total number of windows is 1,370, nearly all of the steel casement type, pivoted to allow cleaning from inside the building.

The basement of the main building is 15 ft. in height. The Horseferry-road end contains the boilers, pumps and other plant in connection with the engineering services of the building. Immediately under the south court is the staff gymnasium. North of the gymnasium is the squash racquets courts. Beneath the north court is a second squash racquets court and a Badminton court. Along the Millbank side runs a 25 yards rifle range, with an armoury adjoining the firing point. The basement of the extension is a car park for the use of the staff, with an area of about 8,000 square feet.

The ground floor is 12 ft. in height from floor to ceiling. The directors' entrance is at the north end of the Millbank front. The main entrance doors are in the centre of the Millbank front. Each of the two leaves of the doors weighs over two tons, is over 20 ft. high and 5 ft. wide, constructed in skeleton steelwork and covered completely with silveroid. The doors are electrically operated, a switch controlling the machinery which opens and closes them. They open into a vestibule, from which Cornish granite steps lead to the main entrance hall. The treads of stairs are covered with black rubber, and the walls of the main central staircase are lined throughout with solid marble, which is also used for all ground floor staircase halls. Two passenger lifts serve the splay front entrance. The entrance from Smith-square leads through a vestibule to a large entrance hall, served by two passenger lifts.

Above the ground floor, the layout of all floors from the first to the fifth is approximately the same. The front block (Millbank and Horseferry-road) is on the "double bank" system, with rooms opening on either side of the central corridor. The back block and the extension are partly double and partly single bank. Seven groups of lavatories, including two for the managerial staff, are provided on each floor.

The main corridors of the building are covered throughout with rubber flooring. The corridor walls and ceilings are painted high gloss, and below the oak dado rail the walls are covered with Rexine of ivory tint. Skirtings of corridors and of plastered rooms generally are of varnished sycamore. Doors opening into corridors are of unpolished oak. Door furniture is of silveroid, reproducing period designs. All doors of rooms have rising butt-hinges. Bardsley door closers are used where required, and "Victor" door springs for corridor doors.

The more important rooms on each floor, including the conference rooms, are in general panelled, the panel being carried up to dado, door, or full height as required. The woods used include English oak and Australian silky oak, English and Ancona walnut, Australian black bean and Indian laurel. Extensive use is also made of Austrian oak. The ceilings of panelled rooms are enriched by fibrous plaster and carton-pierre decorations. Office rooms generally are floored with linoleum of "Battleship" weight. Panelled rooms are floored with "Expanco" cork carpet.

The artificial light of the building is of daylight quality throughout, and is provided by units recessed in the depth of ceilings, the apertures being covered by a screen of diffusing glass. Large rectangular panels are used in corridors, and octagonal ceiling fittings are used in the more important rooms. Staircase halls are illuminated through artificial sunlight windows. The panel system of heating is used throughout the building, coils of pipes being embedded in ceilings, floors or walls, as necessary.

The sixth floor contains the directorate suite. The chairman's room is designed in the manner of Wren, panelled to cornice level in Honduras mahogany veneered with English walnut. The plaster ceiling is heavily moulded and enriched. The directorate suite is floored throughout with walnut. The sources of general lighting for the important rooms on the sixth floor are entirely concealed by day, but when required a panel of the ceiling rises and floods the room with artificial sunlight. A light of half the intensity can be obtained if required. The board room is panelled in veneer walnut, and has a fine ceiling. Plaster enrichments here and throughout the building are tinted to accentuate the relief.

The eighth floor of the main block is devoted entirely to the purpose of kitchens and refectories. A total of 1,500 lunches per hour can be dealt with by the main kitchen. The equipment includes electric and gas heated apparatus of all descriptions, together with mechanical appliances for such work as vegetable peeling, dish washing, etc. The main refectory is over 200 ft. long and 40 ft. wide, with a high barrelled ceiling. The refectory floor is specially constructed for dancing, and the tables are made with detachable legs for quick and compact storage. Amplifiers are provided in the refectory for speech and music, together with wireless reception apparatus. Separate dining rooms are provided for the chairman, directors, visiting directors and high officials. Eight dining rooms are formed by partitions on the Horseferry-road front. On the sixth floor of the extension is the library extending through the height of two floors.

The ground floor elevation of the building on all fronts and some vestibules are faced with granite from the Creetown Quarries of blue-grey tint polished "egg-shell" gloss. 55,000 cubic feet of Portland stone is used in the main façades. It is of Whitbed quality from the Easton Quarries, Portland. The wall of the Cromwell House area is built in Bath stone.

The steel purlins of the pitched roof carry pre-cast reinforced concrete slabs with recesses to hold stud stones forming a key with the Portland stone roof slabs. The concrete is heavily asphalted. The reverse slope was rough boarded over concrete, covered with Ruberoid and slated. Telescopic steel tubes are contained in the roof from which scaffolding can be suspended for the cleaning down of the façades. Similar provision is also made in the courts. The stone roof is provided with expansion joints of lead and bitumen. Mansard roofs are slated and flat roofs were constructed similarly to the hollow floors of the building, and were afterwards heavily asphalted.

Main staircase halls on all floors and various corridors and lavatories are paved with marble. The columns of the main entrance hall are of Subiaco, with bases of Purbeck. Synthetic marble is largely used in lavatories and sanitary apartments, and also for walls of staircases above the ground floor, except for the central staircase, which is clothed in solid marble.

The front retaining wall of the basement, the area walls and some partition walls, are constructed of brickwork. Five million bricks were used in the building, weighing about 16,000 tons. Grooved Fletton bricks were used for plastering or rendering for tiles, and plain Fletton bricks pointed for finished work in the basement.

The basement floor is 6 in. thick above the asphalt dampcourse, comprising 4½ in. of concrete and 1½ in. of granolithic. The basement staircase hall is paved with marble. Above the basement the floors are constructed of reinforced concrete beams filled in with hollow tiles, combining rigidity with lightness. The floor of the refectories is finished in oak parquet laid on plywood, seated on felt beds superimposed upon hardwood blocks embedded

in the concrete. In other portions of the building with wood floors special bulldog clips were inserted in the screeding to hold the joists supporting the plywood panels. The Badminton courts and squash racquet courts are floored with maple. The lavatory blocks are paved with square tile of Roman stone tint. The kitchen is also paved, light octagonal tiles alternating with small black ribbed tiles.

The internal partitions generally are of hollow tiles. These are perfectly rigid, are good sound insulators, lend themselves to rapid construction, and are light. Corridor partitions are hollow, with a double wall of tiles and 2 in. air space. The total thickness is 8 in. The dividing partitions between rooms are of single tiles 4 in. thick. Buck-frames were used at door openings, being built into the partitions as required. At the foot of the partitions a band of light concrete made of wood chips and cement is inserted, forming a ground for securing the sycamore skirting. Fillets of this light concrete were also built in for dados, picture rails, fibrous cornices, etc. On the sixth floor the walls of principal rooms are 5 in. thick and 20 ft. high, constructed in reinforced concrete cast *in situ*.

The false ceilings to the corridors improve their appearance by proportioning height to width and also house the lighting panels and serve as ventilating trunks extracting at high level from adjoining rooms. The false ceiling is of concrete slabs 2 in. thick set in cement on light steel, all joints being pointed. The underside was plastered over expanded metal and painted.

Plastered ceilings are in general of Buxton lime and Calme, on account of the panel heating system. This is also used for general plastering of ceilings and walls in principal rooms, and extensive use was made of fibrous plaster and carton-pierre decoration. The latter was employed in about 60 rooms.

The bulk of the internal joinery is of unpolished Austrian oak, but other woods are also freely used. The directorate suite is richly panelled, one room in Indian laurel. The woodwork of the chairman's room, the board room and other important rooms, is carved in the spirit of Grinling Gibbons and in the technique of the Wren period. All plaster work, including ceilings, is in general painted.

The total weight imposed by the building on its foundations is estimated at 150,000 tons. The foundational problem was serious, as the site was formerly a marsh. Investigations as to the nature of the strata were carried out by means of boreholes and trial excavations. Standing water level was reached at −6 O.D. and the clay at −20 O.D. The level and consistency of the clay varied considerably. It was covered by a bed of gravel and Thames ballast interspersed with sand, the general thickness of the ballast being from 20 to 28 ft. At the Horseferry Road end a thinner layer of ballast was covered with a deposit of soft peaty clay of no bearing value. Piling was decided on for the foundations, the following also being considerations:—(*a*) This method involved the minimum of unforeseen difficulties. (*b*) Progress could be speeded up. (*c*) The support given would be uniform, as each pile could be driven until it had an agreed final set.

Messrs. John Mowlem and Co., Ltd., were the main contractors, and also executed the wood carving; the sub-contractors were as follows: Dorman, Long and Co., Ltd., steelwork; Webber and Corben, Ltd., Bath and Portland Stone Firms, Ltd., Portland stone masonry; W. B. Fagan, stone and wood carving; A. and F. Manuelle, Ltd., granite; Hopton Wood Stone Firms, Ltd., Hopton wood stone; Stuart's Granolithic Co., Ltd., artificial stone steps and landings; J. Whitehead and Sons, Ltd., marble work to halls and staircases and managerial lavatories, synthetic marble work to lavatories; Carter and Co. (London), Ltd., synthetic marble work to lavatories, wall tiling and faience blocks; French Asphalte Co., Ltd., asphalt; Burn Bros. (London), Ltd., iron drainage and fittings; Roberts, Adlard and Co., slating, sand faced Roman tiling; J. P. White and Sons, Ltd., joinery to special rooms, woodwork to lift doors and lift cages; Rattee and Kett, Ltd., Holland and Hannen and Cubitts, Ltd., joinery

(*Continued on page 402.*)

CASTLES AND ABBEYS

ON Thursday evening last, at the Carpenters' Hall, Sir Frank Baines delivered an interesting lecture on the castles and abbeys of England and Scotland. Having referred to pre-historic defensive earthworks, the lecturer proceeded to give an historical survey of subsequent buildings, referring to a number of Roman, mediæval and later castles, including Pevensey, Richborough, Porchester, Brough, Richmond, the Tower of London, Windsor, Edinburgh, Carnarvon, Harlech, Flint, Denbigh, Goodrich, Ewloe, Weobley, Huntingtower or Ruthven, Affleck, Kirby Muxloe, and Hampton Court Palace.

In connection with Brough Castle, the lecturer said it was thought that Roman occupation was undoubted in the immediate area, as in 1792 an urn containing a large quantity of Roman silver coins was found in digging the foundations of a house in the vicinity of the castle. More direct evidence was ascertained, however, when the castle was handed over to the Crown after a vast fall of masonry occurred at the lower part of the south-east corner of the keep, leaving, amazingly, half the wall over, entirely unsupported. The problem there was to retain the vast mass of overhanging masonry and to find a reason for the apparent instability of the keep. To meet both problems, the tower was carefully shored, and examined as to the foundations of the Norman keep, beneath the mound upon which it stood. Here surprising evidence was obtained, showing that originally a Roman tower stood upon this site beneath the Norman keep, the foundations of which were not in exact alignment with the foundations of the Norman keep; and where the Norman walls were resting upon made ground, probably thrown up for an earlier British mound, the great mass of the tower had sunk, being supported in part only by the Roman foundations, but elsewhere had fractured and let down some 300 tons of the masonry at the south-east corner. The evidence clearly showed here that it was a British point of strength, a Roman point of strength, and finally a Norman point of strength. The synchronisation of the three periods was of interest, although there was scarcely an adequate explanation of why the site was selected as one of such constant importance, particularly bearing in mind the fact that pre-Roman defensive works were isolated in character and unconnected with any general scheme of defence; Roman works were not isolated in character but were part of a complete defensive system throughout the country, while the Norman castles partook of certain individual features of their own.

We had in this country, said the lecturer, a complete section of buildings and monuments, illustrating, almost without break, the evolution, growth, change, and final decay of the military architecture and defensive works throughout recorded history.

Coming to a consideration of abbeys, after giving an interesting account of monastic life, the lecturer said the monastery consisted first of all of the abbey church, which was on the northern side of the monastic buildings. They were designed and built upon traditional lines, with much symbolism; the body of the church, with its transepts, was, of course, the symbolic representation of Christ upon the Cross. The churches were built by those who "worshipped as they wrought"; their building was instinct with speech; it was a Tree of Life, branching out in boughs over the vaulting, blossoming in carving and diaper work, breaking out into foliage, flower and fruit on corbel, capital and boss. This was the reason why ecclesiastical Gothic of the twelfth and thirteenth centuries was so instinct with beauty and life. In every monastery, next to the church in importance, came the cloisters, in which the general life of the monastery was partly carried on. Here the younger members worked at their studies under the eye of the teacher, learning the monastic observance or practising the chants and melodies of the Divine Office. Next was the refectory, sometimes called the Frater House, which was the common hall for all conventual meals. Then followed the kitchen, the chapter house, situated generally on the eastern side of the cloister, the dormitory office, connected with the southern transept for easy access to the choir for the night offices. The guest house was a necessary part of every great religious house, and the almonry, where the convent doles of food and clothing were administered by the almoner. There were, in addition, the common room, the library, the abbot's house, and many other buildings. The monastery was, in fact, a small town, self-contained, admirably organised, and run with a discipline and a sweetness quite foreign to any lay settlement.

The system by which the architectural work of the buildings was carried out is not too clearly known. In the Cistercian Order, the mother church directed the architectural plan and lay-out of all the sister churches. The monks themselves were probably the architects, in the modern sense of the word, with workmen trained in the practice and traditional forms of the Gothic.

The lecturer then gave a descriptive account of a number of abbeys, including Tintern, Rievaulx, Furness, St. Botolph's Priory, Whitby, Byland, Netley, and Jedburgh.

Referring to Byland Abbey, he said this abbey, when handed over to the Crown, was in a most disastrous condition of ruinous decay. Heaps of debris covered the ruins, so much so that it looked at first as if there was very little left to preserve. The amount of excavation, however, was so great, amounting to approximately 60,000 tons of soil and debris, that the disclosure of the plan of the old abbey proved to be of remarkable interest, and even the wonderful patterned tiled floors under the high altar and in the transepts were disclosed exactly as they were left at the Dissolution, when the lead was stripped from the roofs, and great masses of masonry were overthrown on to these beautiful pavements.

In the case of Jedburgh, the tower, which had been thicknessed and vaulted over in the fifteenth century, was in a most disastrous condition, the north-east and north-west drums of the tower, which were Norman, being seamed with fissures and cracks large enough to put the hand in. The tower was in imminent danger of complete collapse. The south-east and south-west towers were in a better condition, as they were apparently rebuilt in the fifteenth century, and did not show the defects of Norman workmanship.

The Normans have sometimes been called the mediæval "jerry" builders. They relied on the vast scale of their work rather than the quality of the materials and workmanship, and the interior of the two drums of the north-east and north-west piers of the tower was found to be little other than dry debris, capable of sustaining little load, and thus thrusting the full weight of the structure on to the stone casing of the drums, with the result that they were fractured almost past belief.

A very difficult piece of preservation work was undertaken here; although the tower was condemned by a considerable engineer as being incapable of preservation, it was decided to attempt to shore the tower, the approximate weight of which was 2,800 tons, and to recore with good material the interior of the north-east and north-west piers, leaving the external Norman casing to the piers in position and untouched. This extremely difficult work was carried out with complete success, and the tower preserved in its original condition with all the original stones left in position, so that one could see to-day, with entire safety, the condition into which the tower had been allowed to fall, while the modern buttresses and enclosing walls on the north side of the tower were removed, so that the full height of the arches of the crossing were now exposed.

LEGAL SECTION

THE PUBLIC AUTHORITIES PROTECTION ACT.

THE Public Authorities Protection Act, 1893, is a statute which has not only at times called forth a great deal of criticism, but has also been the cause of considerable litigation. It will be remembered that it applies where any action, prosecution, or other proceeding is commenced in the United Kingdom against any person for any act done in pursuance or execution, or intended execution, of any Act of Parliament, or of any public duty or authority, or in respect of any alleged neglect or default in the execution of any such Act, duty or authority, and lays down certain provisions. The first of these (Section 1 (a)) is: "The action, prosecution or proceeding shall not lie or be instituted unless it is commenced within six months next after the act, neglect or default complained of, or in case of a continuance of injury or damage within six months next after the ceasing thereof," and these are the main operative provisions, but the statute contains a sting in its tail by drastic provisions as to costs, one of which is "Wherever in any such action a judgment is obtained by the defendant it shall carry costs to be taxed as between solicitor and client" (Section 1 (b)), and then follow provisions as to tender.

An important decision has just been delivered by the House of Lords in the case Graigola Merthyr Company, Ltd., *v.* Swansea Corporation, reported in the *Times*, February 1, where the question came before that tribunal for the first time whether a *quia timet* action brought to prevent a threatened course of action fell within the terms of the section as set out above and the provision as to costs in consequence. The facts of the case were shortly stated as follow:—The Corporation possessed statutory powers to make, maintain and use certain reservoirs, and the reservoir in question had been constructed in 1879 and had remained in use until 1912. The plaintiffs in the action were colliery owners with a seam beneath the reservoir, and on September 23, 1912, the parties had come to an agreement under which the defendants had agreed to discontinue the use of the reservoir and keep it empty for a period of three years from the date when the plaintiffs had completely worked and gotten the minerals. The minerals were completely worked out by February 1, 1917, and nothing was done in the next three years, and on February 1, 1920, or shortly afterwards, the defendants had written to the plaintiffs intimating their intention of refilling the reservoir. The plaintiffs had protested against this, alleging that the refilling would flood their mines, and as the defendants persisted in adhering to their intention the plaintiffs brought this action asking for an injunction. The action lasted 60 days, but in the result it was dismissed with costs, and the judgment ordered the plaintiffs to pay two-thirds of the defendant's costs as between solicitor and client under the Public Authorities Protection Act. It is stated in the report before the House of Lords that the costs were said to have been brought in at the sum of £70,000, and the plaintiffs, being anxious so far as possible to lessen their liability, moved the Court to vary the order by omitting the words "as between solicitor and client." This was the sole subject of the appeal, the question being whether paragraph (b) of section 1 of the Act applied to a *quia timet* action such as this.

The argument appears to have been that the Act had no application where no act had been done and no neglect or default had been committed, and that the period of limitation contained in paragraph (a) could not be applied when nothing had been done and no injury or damage committed. The House of Lords affirmed the decision delivered in the trial Court and the Court of Appeal that the Act applied and that the order as to costs must stand. Such an order has been made before in *quia timet* actions—for instance, in Harrop *v.* Mayor of Ossett (1898, 1 Ch. 160) and other cases—but it was now argued that in those cases the point now raised had never been taken or decided.

The judgments delivered in the House of Lords are not yet reported in full, but it appears that the House held that the view adopted in the above cases was correct, and on the point that in such cases it would be impossible to determine the date from which the time limit imposed under the statute would begin to run it was pointed out that to support a *quia timet* action there must be an immediate threat to do something, and it must be a threat which established the right to apply for protection, and it would not be impossible to determine the time when such a threat was made or when such a right arose, even if the question as to the time limit could arise at all in *quia timet* actions, which the House appear to have intimated could not be the case. We may point out that this provision as to costs under the Public Authorities Protection Act does not extend to appeals.

Workmen's Compensation. Death from the Fall of a Tree.

The case Lawrence *v.* George Mathews, heard in July, and noted by us on August 31 last, has only just been reported in the Law Reports (1929, 1 K.B. 1); and, now a full report is available, our former note requires amendment in one respect. It will be remembered that the deceased man was a commercial traveller who, in the course of performing his duties, was riding a motor-cycle along a road, when he was killed by the fall of a tree blown down in a violent gale. His means of locomotion were not prescribed by his employers, nor did they prescribe his journeys, but to their knowledge he travelled by a motor-cycle with a side-car. The case raised that most difficult question under the Workmen's Compensation Act—the intervention of a cause due to the forces of nature. There was a difference of opinion in the Court of Appeal, the Master of the Rolls holding that the accident did not arise "out of the employment," whilst the majority of the Court held that it did so arise. The only correction we desire to make in our former note is that, in stating the finding of the majority of the Court, we said the finding was "that the course of the employment took the man to the place where the accident happened, and, that being so, it was unnecessary to inquire into the cause of the falling of the tree, for, whatever the ultimate cause, the accident happened out of and in the course of the employment." Now that the case is fully reported, it appears some slight refinement has to be introduced into the finding as above set out, which, however, greatly adds to the difficulty of applying the law in such cases. The addition that requires to be made in the above statement to bring it within the decision of the majority of the Court of Appeal is this: that the employment must take the man to a place where a danger exists, and if such "a locality risk" is established, then the accident arises "out of the employment," even though the risk which caused the accident was neither necessarily incident to the performance of the man's work nor one to which he was abnormally exposed.

It must be noted that when an accident occurs it is now established that the only cause to be ascertained is the immediate cause, not the remote cause (Thom *v.* Sinclair, 1917, A.C. 127; *The Builder*, June 22, 1917). Here the imediate cause was the fall of the tree. But the accident has to be connected with the employment. Thus, where a man is injured directly by a force of nature such as a stroke from lightning, he has to show that his employment specially exposed him to this risk.

Street risks stand on a special basis, and did so before they were so seriously increased by the greatly increased motor traffic, although members of the public may be exposed to the same risks if an employee is sent into the streets the dangers of the streets are incidental to his employment, and an accident from such a cause arises out of the employment (Dennis *v.* A. J. White (1917, A.C. 479; *The Builder*, October 26, 1917). The Court found that the present case partook in some measure the characteristics of both the above classes of cases, and they engrafted a further proposition upon them.

To make the matter plain, we may explain Lord Justice Russell laid down three propositions based on the case law: (1) If the accident results from a risk which is necessarily incident to the performance of the servant's work, the accident arises out of the employment; all inquiry as to the frequency or magnitude of the risk is irrevelant, and it makes no difference that members of the public face the same risk (Dennis *v.* White). (2) If a workman is injured by an accident resulting from a risk to which everyone is subject, but to which it can be said that the workman runs more than normal risk, the accident arises out of his employment, because the abnormal risk was necessarily incident to the performance of his work (Andrew *v.* Failsworth Industrial Society—a bricklayer on a scaffold injured by lightning). (3) If a workman is injured in an accident resulting from a risk to which everyone is subject, but which is not necessarily incident to the performance of his work or to which he is not by his work abnormally subjected, the accident does not arise out of his employment (Allcock *v.* Rogers). Then the Lord Justice observes that the case in question would fall within the third proposition, but the authorities appear to establish a fourth proposition, namely, that sufficient causal relation or connection between the accident and the employment is established if the man's employment brings him to the particular spot where the accident occurred and the spot, in fact, turns out to be a dangerous spot. This proposition was based on Thom *v.* Sinclair, but in that case the employee was engaged to work in a shed, and a wall on a neighbouring property collapsed from its own instability and injured her. The same difficulty was not experienced in that case to that raised in the present case, because the locality of employment was defined, whilst here it was undefined except that the employee might be on the road, or any road, in the course of his employment, and it seems difficult to take the case out of class 3, as laid down above, except by holding that it was a "street danger." The man might never pass down that particular road again, and it is difficult to see that his employment subjected him to any greater risk than any member of the public.

We only make these observations to show the extreme difficulty of deriving any general principle from the cases which will form a guide and obviate litigation, and a survey of all the decisions gives rise to a doubt whether such hair-splitting as the drafting of this measure has necessitated may not be more costly to employers than a simple declaration that employers are insurers of their employees against any accident occurring to them "connected with their employment." The Courts would easily determine whether or not the accident was connected with the employment, and this would be a question of fact not subject to appeal. The Act has done away with any question as to contributory negligence and whittled down the defence of serious wilful misconduct so as to render it almost a nullity.

EDINBURGH HOUSING AND BUILDING EXHIBITION

THE fourth Housing and Building Exhibition, which is now being held in the Waverley Market, Edinburgh, was opened by Sir Robert Lorimer, A.R.A., on Wednesday, February 13. It provides an epitome of the progress of the building industry and is designed to appeal especially to the architect and the builder. Despite the inclement weather, the Exhibition has been remarkably well attended, and its all-round success is a tribute to the organising ability of Mr. Percy Bentley.

Councillor Fergus Harris, Convener of the Housing Committee of the Edinburgh Town Council, presided at the opening ceremony, and among those present were Dean of Guild Bruce; Mr. John Begg, President of the Edinburgh Architectural Association; Mr. Frank Finlaison (a director of *The Builder*), and many others.

In the course of his opening speech, Sir Robert Lorimer said the exhibition seemed to grow in scope and usefulness every year, and he thought they were all greatly indebted to Mr. Percy Bentley, the promoter, for keeping it as a strictly business exhibition within quite definite limitations, and avoiding irrelevant side-shows. There was no doubt about the usefulness of exhibitions of that kind, because they enabled architects and all interested in housing and building to keep abreast with new developments and new ideas in regard to building materials. The fact that nothing ever stood still in this world, and everything was always in a state of flux, was specially true of building construction and building material to-day. We had constantly to adapt ourselves to the use of new methods and new materials. To take only one instance out of many that might be given—the development of the use of artificial stone. A few years ago there was a great prejudice against the use of artificial stone, but within recent years the manufacture of it had been much improved, and stone of almost any type could now be reconstructed and was being adopted in quite important buildings. We might regret the change, but the fact was, the modern boy did not seem to want to become a hewer, and also there was the always-present question of the saving of time. He recently erected a large building in which reconstructed stone was used for all the hewn work, and he was certain it was carried through in a third part of the time that it would have taken if he had used natural stone. It also was a great deal cheaper. Architects, he continued, were inundated with a great amount of printed matter descriptive of all the new things that were brought out, and it was very difficult to separate the wheat from the chaff. A lot of that literature found its way into the wastepaper basket without being properly digested, but if they walked round an exhibition of that kind and carefully examined what was exposed on the stalls they really learnt what new inventions were being brought out in connection with building. He thought that when they walked round the Exhibition they would agree with him that of recent years there had been a great improvement in design. Design was getting much more sensible than it used to be. He, and many of his brother architects, had always advocated that the design of all such things as sanitary fittings and grates and the like should be governed almost entirely by fitness for their purpose. He thought they would agree how absolutely fitted for the purpose most of the fittings were. They would see these things with rounded corners, and no attempt at putting extraneous elements into them at all. If a thing were fitted for its purpose it was a beautiful thing.

Dean of Guild Bruce proposed a vote of thanks to Sir Robert Lorimer, which was seconded by Mr. John Begg, President of the Edinburgh Architectural Association.

On Friday, February 15, a special lantern lecture on "Old London—Illustrated" was given by Mr. Herbert A. Cox, F.C.A., a director of *The Builder*, when the chair was taken by Mr. E. J. MacRae, A.R.I.B.A., Edinburgh City Architect.

Below we give brief notices of some of the principal exhibits :—

Allan Bros., Ltd., Tweed Saw Mills, Berwick-on-Tweed. **Row C, 41.**

A wide display of British joinery, including doors, gates, windows, staircases, counters and panelling in various hard and soft woods is exhibited on this stand, together with many examples of mouldings of good type. Creosoted paling in styles to suit garden fencing is also shown. All these creosoted goods are treated under high pressure, and the timber, which is thus thoroughly impregnated, will last for a great length of time and never require painting. The oil used gives this paling a pleasant brown appearance and no coating of tar is left on the surface.

"The Builder," Ltd., Catherine-street and York-street, Aldwych, W.C.2. **Row A, 3 to 5.**

At this stand copies of *The Builder* and *Architecture* are on sale, together with a comprehensive selection of publications and text-books devoted to architecture and building. On a special stand there is an exhibition of models especially made for *The Builder* and illuminated by electricity. These represent "Old London Bridge," "Mill Lock Arch," "London's First Waterworks," "Old St. Paul's," *"House with Three Bedrooms," *"House with Four Bedrooms."

The Crittall Manufacturing Co., Ltd., Braintree, Essex. Glasgow Office: 28, Royal Exchange-square, C.1. **Row C, 43.**

A wide range of metal products is shown on this stand. By means of standardisation and mass production the firm are able to supply steel casements in large or small panes, opening inwards or outwards, at very economical prices. The advantages claimed for these casements are that there are no cords to break; the metal is not affected by change in temperature; the casements are watertight, easy to clean, and do not rattle. Standard "Fenestra" sashes are made to suit every class of industrial building. They are prepared for glazing from the inside and can be supplied permanently rustproof for buildings such as bakeries, laundries and chemical works. The firm specialise also in bronze and steel universal casements, bronze gates and doors, shop-fronts, wrought- and cast-iron window-breasts, hospital windows, roof-lights, etc.

A. Cunningham and Co., Glass Merchants and Glaziers, 18, Leith-street, Edinburgh. **Row A, 9.**

On this stand there is a good display of standard building materials, including specialities such as "Sundeala," the waterproof wallboard for all purposes (for which the firm are sole agents for the east of Scotland), and Vita Glass, the new ultra-violet health ray glass, for which there is an increasing demand. Other materials on view include ornamental leaded glass, embossed glass, silvered and bevelled plate-glass, mirrors and mirror showcards. "Brolac" double-protection paint with glossy finish, for which the firm are sole agents for the east of Scotland, is also shown.

* Winners of 1st Prizes in *The Builder* Cost of Building Competition.

Sir Robert Lorimer at "The Builder" Models Section.

Drew, Clark and Co., "Diamond" Patent Ladder Works, Leyton, London, E.10; 7 and 9, Waterloo-street, S.E.1; and 19, Ludgate-hill, E.C.4 **Row E, 64 to 67.**

No branch of builders' equipment has shown greater development within recent years than that which embraces ladders and scaffolding. The old-fashioned ladder has in many instances been superseded by the extension type, and various new combinations and varieties of apparatus have been introduced. On this stand there is an excellent display of such equipment, including "Diamond" patent extension ladders (in two and three sections), "Rap-Rig" patent scaffolding for interior decorators, "Diamond" patent auto-folding platform steps, "Diamond" combined ladder and steps, "Diamond" "Push-up" extension ladders, and ladders, steps and trestles for all purposes.

Enticknap Concrete Machines, Ltd., 4, Broad Street-place, London, E.C.2. **Row A, 11.**

The Enticknap concrete-block and slab-making machine is exhibited in operation on this stand. The machine, which is patented throughout the world, is power-driven and specially designed for the manufacture of concrete blocks, breeze slabs, etc. The rate of output is claimed to be exceptionally high, and the consolidation of the aggregate in the mould box allows products to be removed on edge, thereby necessitating the use of one face plate only per mould box. The Enticknap artificial stone and kerb making machine is also exhibited in operation. This is power-driven and is capable of making artificial stone mouldings, kerbs, channels, etc., with a high output.

James Gray and Son, Ironmongers and Electricians, Ltd., 89, George-street, Edinburgh. **Row C, 39.**

On this stand is exhibited the "Triplex" patent grate in operation. The object of this grate is to give the maximum of comfort with a minimum of labour. It has been fully tested over a long period, and has the advantages of eliminating the range, and turning the kitchen into a living-room. Combining as it does hot chamber over oven, grilling hearth oven, and abundance of hot water available day or night, this apparatus has a wide range of utility. The "Ideal Cookanheat" and "Ideal" boilers, for house, flat or bungalow, are also shown in operation. The former is an effective cooking stove with special features. The boiler is fitted with open or close fire.

J. and W. Henderson, Ltd., 18, York-place, Edinburgh. **Row B, 26 to 28.**

Cement and cement products are well displayed on this stand. The specialities shown include the "Blue Circle" brands of Portland cement, "Ferrocrete" rapid-hardening cement, and "Lightning" aluminous cement ultra-rapid-hardening. The latest testing apparatus is shown, both for compression and tensile tests. Demonstrations are carried out periodically, and customers' samples tested and reported on free of charge. Other exhibits are cast-stone, "Aberdeen Adamant" hydraulically pressed concrete paving stones, and roughcasting in coloured cements.

G. W. Lewis' Tileries, Ltd., and The Haunchwood Brick and Tile Co., Ltd., Stockingford, Nuneaton. **Row C, 37.** Representative for Scotland: S. Wallace Allan, 80, Catheart-road, Glasgow, S.2.

An excellent display of bricks and tiles is shown on this stand, including specimens of hand-made and machine made "Rosemary" roofing tiles and fittings of various colours; blue, red, and buff ridges of all patterns; finials of various patterns; blue bricks for engineering and other purposes; rustic facing bricks; red pressed facing bricks; chimney cans; fireplace briquettes; hollow buff blocks of various sizes for floors or partitions; ventilating or air bricks; red, buff, and blue quarry tiles; red bullnose sills and skirting tiles; red and blue garden edging; and red and buff garden vases and pedestals.

Marb-l-Cote Distributing Corporation, Ltd., 19/21, Farringdon-street, London, E.C.4. **Row B, 31.**

"Marb-l-Cote" is a plastic wall finish made from pure ground marble, but it is not an imitation marble. It is applied to surfaces with a brush and is textured by hand while the finish is soft. It will produce easily and economically any variety of texture and forms a basis for any combination of colours. The surface presented is extremely hard and will withstand rough usage It can be washed freely with water and thus preserve its original freshness of appearance.

James Miller, 4, Gayfield-place, Leith-walk, Edinburgh. **Row B, 17.**

The demand for the small dwelling-house of bungalow type and moderate in cost has increased considerably without recent years, and in many instances it is being efficiently met. The bungalow here exhibited provides excellent accommodation, as follows:—Small hall; living-room, size 15 ft. 6 in. by 11 ft.; parlour, 14 ft. 7½ in. by 11 ft.; bedroom, 14 ft. 7½ in. by 9 ft. 6 in.; bedroom, 10 ft. by 10 ft.; bathroom, with bath, wash-hand basin and w.c., all conveniently placed; kitchenette, with ventilated recess for gas cooker, and fitted with a tub, sink, and gas boiler; larder with window, and coal cellar opening from kitchenette. Ample presses are fitted, and a large cupboard.

Morrison and Son, 10, Randolph-place, Edinburgh. **Row B, 30.**

This exhibit comprises a complete working installation of the "Ideal Cookanheat," showing how the cooking, hot-water supply and warming of rooms in private residences of moderate size can be obtained all from one fire. The boiler of the "Ideal Cookanheat" has a high water-heating efficiency and is capable of heating several radiators without detriment to the hot-water service or cooking. The apparatus shown is fitted in conjunction with an "Ideal" indirect cylinder made of copper. The "Ideal Rayrad," a radiator applying the principle of heating by low-temperature radiation, is also shown, together with other radiators, boilers and heaters.

Scaffolding (Great Britain), Ltd., incorporating The Tubular Scaffolding Co., Ltd., and The Patent Rapid Scaffold Tie Co., Ltd Head Office: 45, Lansdowne-road, Stockwell, London, S.W.8. Edinburgh Branch Office and Works: West Savile-terrace, Newington. **Row C, 33.**

Scaffolding has undergone a revolution within recent years as a result of modern invention and enterprise, and a good idea of the progress which has been made may be gained from the various devices shown on this stand. These embrace tubular scaffolding, "Scaffixer" scaffold ties, "Conforms" stamped steel shuttering, and adjustable "Tubeshor" support, of which the firm are manufacturers and patentees. Demonstrations are given daily, showing the advantages attaching to the use of tubular scaffolding, comprising patent sprocketed tubes, universal couplers and reinforced putlogs (which eliminate putlog holes). "Conforms" patent adjustable stanchion plates, which centre a column or pilaster to any dimension in a few seconds, are demonstrated daily; and typical layouts are on view of patent stamped steel shuttering for all concrete work. "Tubeshors" are a temporary constructional support, adjustable at any exact height in a few seconds, and removable instantly without any jar or vibration to the work being supported. Exterior suspended scaffolding is also shown.

A. Stevenson and Co., 58/62, Newhaven-road, Leith, Edinburgh. **Row C, 34.**

Specialists in welding construction and welding repairs, and manufacturers of "Weldun" products, this firm are showing the "Welcome" boiler for central heating from dining-room grate; the "Hot Cross" boiler in conjunction with smooth-top gas cooker; various types of welded boilers for greenhouse work, central heating, etc.; steam boilers for piggeries, dairies, etc.; jacketed pans for butchers, etc.; and smoke ovens for hams, etc.

David Tod, Ltd., Edina Copper Works, Easter-road, Edinburgh. **Row B, 29.**

This firm is exhibiting a varied selection of "Edina" specialities, comprising "Edina" hot-plate, independent boilers, "Edina" radiators, "Lawside" boilers, the "Edina De Luxe" with an up-to-date cooking oven and boiler hob, copper tanks, boilers, calorifiers, etc., and the "Ascot" specialities for heating water by coal, gas, and electricity.

Allan Ure and Co., Springbank Foundry, Keppochhill, Glasgow, N. **Row B, 25.**

The "Ure Back-to-Back" grate and "Ure" interior cooker are here exhibited. The back-to-back apparatus, providing, as it does, on one side an open fire for a living-room and on the other a means of cooking, heating and boiling water for kitchen and scullery, is one of the most useful and economical pieces of apparatus invented in modern times. It is shown in operation on this stand. In addition there is an excellent display of ranges, mantel registers, etc.

Young, Osmond and Young, Ltd., 47, Victoria-street, Westminster, S.W.1. **Row C, 44.**

It has frequently been stated that heating by electricity is costly compared with other methods. This may have been so in the past, but it is now claimed that with the great advance in the design and manufacture of electric heaters there is no longer any justification for the criticism. A system which has been widely adopted and, on the evidence of users, with entirely satisfactory results, is the "Unity" tubular electric heating system, which is exhibited on this stand. Consisting outwardly of steel tubing, horizontally disposed, the system provides a large heating surface, working at a low temperature approximating to that usual in low-pressure hot-water systems. The mica-supported element is flexible, which allows it to be used in curved tubes. This is an important advantage, since it enables the heaters to be used in many positions in which straight runs are difficult to arrange economically. The heaters are supported by standard wall clips on multiple floor-brackets, and being of simple and unobtrusive design, do not mar the good appearance of an interior. The use of this system obviates the necessity for heating chamber and flues, and this ensures a considerable saving in building work.

Following is a list of the principal exhibitors:—

The Acme Patent Ladder Co.; Allan Brothers, Ltd.; John Andrews and Sons, Ltd.; Baxendale and Co., Ltd.; British Vacuum Cleaner and Engineering Co., Ltd.; *The Builder*, Ltd.; Chubb and Sons Lock and Safe Co., Ltd.; Crittall Manufacturing Co., Ltd.; A. Cunningham and Co.; Danckaert's Woodworking Machinery, Ltd.; Dominion Machinery Co., Ltd.; Drew, Clark and Co.; Edinburgh, Leith and District Master Plumbers' Association; Electrolux, Ltd.; Enticknap Concrete Machines, Ltd.; the General Fireproof Building Products Co.; James Gray and Son, Ltd.; the Halifax Building Society; the Haunchwool Brick and Tile Co., Ltd.; J. and W. Henderson, Ltd.; John and James Lawrence, Ltd.; G. W. Lewis' Tileries, Ltd.; Marb-L-Cote Distributing Corporation, Ltd.; Metlex Industries, Ltd.; Miller and Burden; James Miller; Morrison and Son; Municipal Supplies, Ltd.; the Roofing and Building Supply Co.; Scaffolding (Great Britain), Ltd.; Smith, Fletcher and Co., Ltd.; A. Stevenson and Co.; David Tod, Ltd.; Allan Ure and Co.; George Waterston and Sons, Ltd.; Young, Osmond and Young, Ltd.

The exhibition closes on Saturday, February 23.

BRITISH INDUSTRIES FAIR, BIRMINGHAM

THE Heavy Section of the British Industries Fair opened at Castle Bromwich, Birmingham, on Monday last, simultaneously with the London Section, which is being held at the White City. Both exhibitions remain open until March 1st. The Birmingham Section, with which we are here concerned, shows a big advance on last year. The Fair buildings have been considerably extended, the floor space now covering over eleven acres, and the number of exhibitors has greatly increased. Builders' and decorators' materials are better represented than ever before, together with plant and machinery, and there is a comprehensive display of heating and cooking apparatus, hardware, ironmongery and brass foundry, electrical and gas equipment, etc. The largest sectional development is the gas section, this industry making for the first time a comprehensive, self-contained display, which compares with the well-established electrical section. Official visits to the Fair are being paid by a large number of professional and trade associations.

Below we refer to some of the principal exhibits, and further notices will be given in our next issue.

D. Anderson and Son, Ltd., Park-road Works, Stretford, Manchester. Block 16F, Stand No 1.

All grades of the firm's roofing specialities are displayed on this stand, from quite inexpensive kinds to the type known as "Rok," which is widely used on Government and industrial contracts at home and abroad. Lining felts, dampcourses, etc., "Bondex" plastic compound, "Siderosthen" anti-corrosive paint, and "Sidol" wood preservative, are also shown. The exhibit includes some interesting models showing "Belfast" roofs, new "Rok" tiling, and other uses for the roofings.

Carron Company, Carron, Stirlingshire. Block 14E.

This company exhibit a comprehensive display of their varied manufactures, including cooking ranges, fireplaces in various forms, and general castings. Examples of cooking apparatus for coal, steam, gas and electricity are on view, together with gas and electric cooking and heating appliances. As showing engineering products a colliery haulage gear is exhibited. The ironwork surrounding the stand is of Carron manufacture.

Elsan Manufacturing Co., 34-35, High Holborn, London, W.C.2. Block 8H, Stand No. 3.

This firm are exhibiting their Elsan chemical indoor closets, which are odourless and hygienic, together with modern sanitation for schools, factories, sports clubs, etc., without main drainage. This apparatus has been tested and approved by medical officers of health, and has been widely installed by public authorities. The firm also show their "Ice King" combined ice and ice-cream maker in portable and pocket sizes.

John Fowler and Co. (Leeds), Ltd., Leeds. B1. Fairgrounds.

The machinery exhibited includes four examples of the "Fowler" concrete mixers—the small tilting drum type, a standard 7/5 machine, a 7/5 fitted with self contained hoist, and a larger 10/7 machine. The 7/5 machine fitted with hoist is specially adapted for buildings when the concrete has to be delivered to the upper floors, as the hoist is always ready to raise each batch of concrete as it is mixed, to the required level. The engine has ample power to operate both mixer and hoist simultaneously, and the labour-saving qualities of the machine are enhanced by the fact that all the operations are easily controlled by one man. In addition to the concrete mixers, the firm are showing a range of block-making machinery which will also appeal to builders who are on the look out for labour saving plant. Other exhibits include serviceable carts and barrows for handling concrete, and a 40 h.p. motor shunting locomotive.

The General Electric Co., Ltd., Magnet House, Kingsway, London, W.C.2. Block 18L. Stand No. 3.

Among the many exhibits of this company attention may be drawn to the "Bakelite" accessories for modern electric lighting installations. This material, which, besides being shock-proof, has a real decorative value, is used extensively for a great variety of accessories, such as switch covers, switch plates, plugs and wall sockets, adaptors and connections, ceiling roses, lamp holders, table lamps, etc. These can be supplied in natural brown colour or in black or oak finish. The material is unaffected by temperature changes, heat (within practical limits) or damp, and does not require cleaning. Another exhibit of especial interest to architects and builders is a system of tubular heating with rheostat, which gives efficient and economical service.

G. A. Harvey and Co. (London), Ltd., Greenwich Metal Works, Woolwich Road, London, S.E.7. Block 8K. Stand No. 3.

Metal equipment is here shown in great variety. The examples include: Perforated metals, woven wire of all meshes and gauges, sheet metal and plate work, ventilators, chimneys, steel piping and gutters, ornamental radiator guards, pipe covers, grilles and ventilating panels, electric heater guards, together with "Harvey" steel furniture, comprising steel filing cupboards, shelving, tables, storage bins (adjustable and fixed), and plan files.

Kleine Patent Fire-Resisting Flooring Syndicate, Ltd., 133-136, High Holborn, London, W.C. Block 14F. Stand No. 2

A special feature of this exhibit is the "Kleine" patent light-weight sloping roof, consisting of hollow bricks jointed in cement mortar and having a mild steel reinforcement. The system is for spans up to 10 ft., and the dead weight is 21 lb. per square foot. The finished roof may be laid with "Ruberoid" or similar material, and there is an alternative tile finish, the joints between the bricks being covered with a semi-circular ridge. The bricks are laid on temporary close-boarded centering, and make an obviously efficient fireproof roof covering of high insulating quality.

The Leeds Fireclay Co., Ltd., Wortley, Leeds. Block 6b, Stand No. 2.

Burmantofts faience and terra-cotta are here displayed by constructional features embodying the various types and new colours. Other exhibits include Leeds fireclay glazed bricks and tiles; specimens of fireclay sanitary ware suitable for hospitals, factories, schools, public buildings and houses. The exhibit is only representative of the company's activities, but a full range may be seen at the London showrooms at 2, Cavendish-place, W.1.

R. A. Lister and Co., Ltd., Dursley, Glos. Block 17G, Stand No. 1.

A prominent feature of this exhibit are the electric lighting and power plants indispensable for country house lighting and for driving small machinery, such as pumps, saws, etc. There is also a display of engines of the water-cooled, automatically lubricated vertical 4-stroke type, for all power purposes. Pumping plants for country house and estate water supply are also shown, and there is a comprehensive exhibit of auto-trucks of one-ton capacity suitable for transport work on railway platforms, docks, factories, warehouses, etc.

R. and A. Main, Ltd., Falkirk. Angel-road, Edmonton, London. Block 11E, Stand No. 1.

The great advances which scientific research and experiment have made in gas cooking and heating appliances are exemplified in the productions shown on this stand. Chief among these are the examples of Mainamel (all-enamelled) cookers, in which all parts—outside as well as inside, and back as well as front—are fully enamelled in the new hard-wearing finishes with surfaces that are as easy to clean as china. Included in the exhibit are cookers for all domestic requirements. Gas fires of varied designs are also displayed in a selection of finishes, including cromium-plated, and there is an excellent exhibit of large cooking apparatus for hotels, wash boilers and radiators. "Novocrete" economy flue blocks are also shown.

Powell Duffryn Steam Coal Co., Ltd., Cardiff. Block 18 F, Stand No. 3.

This firm is exhibiting a new antiseptic wood preservative known as "Presotim," a coal by-product. This is manufactured in two qualities—interior and exterior—and in a wide range of fast colours. Both qualities can be varnished, and the former can also be treated with wax polish or French polish with pleasing effect. "Presotim," we understand, has been used exclusively on many big housing schemes during the past twelve months; it is also being used for treating furniture. In addition to being a preservative against dry rot, weather, vermin, etc., it has distinct decorative qualities.

Samuel Smith and Sons, Ltd., Beehive Foundry, Smethwick. Block 8K. Stand No. 1.

Grates, ranges, stoves, etc., embodying modern scientific practice are here exhibited. The patent "Foresight" range and the patent "Foresight" junior stove are shown and new and improved models of the patent "Twin-Oven" grate, including the "Twin-Oven" H.C. and the "Twin-Oven" stove. A newcomer to this display of modern grates takes the form of a single oven grate, attractively tiled in panels and door.

Tangyes, Ltd., Cornwall Works, Birmingham. Block 16J.

This firm is showing a comprehensive selection of its fuel oil engines, centrifugal pumps, etc., and special attention may be drawn to the LLD7 (144 B.H.P.) twin-cylinder heavy fuel oil engine, cold-starting type, fitted with patent super-compression gear, which reduces the compression and initial pressure at the time of the injection of the fuel oil and consequently reduces ignition by some 20 per cent., thus lessening the initial strain on the engine as a whole and the pressure on the various bearings. A varied collection of pulley blocks, screw and hydraulic lifting jacks, etc., is also shown.

Triplex Foundry, Ltd., Great Bridge, Staffs. Block 7G. Stand No. 1.

A comprehensive working exhibit of all "Triplex" and "Workwell" models is here shown. Attention is drawn to two important new features of the "Triplex" grates, the radiator boiler specially designed for heating three radiators in addition to the usual domestic supply, and to the new type of front boiling hob, two developments of the firm's service that will be appreciated by users.

The Vono Co., Duport Foundry, Dudley Port, Staffs. Block 6E. Stand No. 2.

The "Vono" combination grate which is here exhibited is a very useful piece of apparatus, combining an open fire below with an oven above, and providing an ample supply of hot water. When fitted with an overmantel and tiled surround it makes a suitable grate for an interior which is to be used as a sitting-room as well as a kitchen. It has one damper control, and may be cleaned without removing the oven. The grate meets an obvious requirement, especially in relation to small houses. The firm also exhibit detail fire parts, including self-contained flues, firebrick backs, bottom grates, etc.

ARCHITECTS' & BUILDERS' INQUIRY BUREAU

We are glad to give questions and answers, but cannot accept responsibility for contributed replies, especially on legal matters.

May we appeal to our correspondents to submit their queries on paper of a size easily filed, and written as legibly as possible, or, better still, in typewriting!—ED.

Cement Mortar and Efflorescence in Brickwork.

SIR,—I see that "Architect" expresses the view (see *The Builder*, February 8, page 307) that the unfortunate salting of brickwork when Portland cement mortar is used is due to the bricks and not to the use of cement. My own experience shows that this can hardly be the case. I have found when a certain foreign Portland cement is used that there is no salting, but that salting followed immediately upon the use of the same bricks with British Portland cement.

In the case of a dwelling-house in which very fine facing bricks were used (perhaps the costliest in the market) I completely avoided salting by using the foreign cement. It happened, however, that it was decided to add a brick pergola to the house, for which the same fine bricks were used as for the main structure. As the foreign cement had run out, British cement was used for building the pergola. Rapid salting followed, the pergola looking as though it had been deliberately floured, while the house itself was entirely free from salting. Surely this is conclusive.

Portland cement mortar is so infinitely superior to lime mortar, while costing hardly more, that it seems a very great pity we cannot ascertain the exact cause of salting. I give the above case, not to praise foreign cement, but to point out to British cement makers that it ought to be worth while to investigate why it is that their product leads to salting. Another point is that the foreign cement gives an agreeably coloured joint, while the British cement gives a disagreeable blue appearance.

M.

[*.*We have obtained the following opinion from an expert:—The efflorescence, or salting, described by your correspondent would almost certainly have been derived originally from the bricks, because they are burnt at a temperature which is not sufficient to drive off any alkaline salts contained in the clay from which they were made, whereas cement is burnt at a temperature high enough to volatilise the alkaline salts of which efflorescence is composed, even supposing the raw materials used for the manufacture of the cement to have contained appreciable quantities of alkaline salts. The more probable explanation of your correspondent's experience is that the foreign cement made a weak permeable mortar which allowed the salt solution taken up from the bricks to be washed out by rain, whereas the British cement made a dense mortar which did not provide a means of escape for the salts, so that these latter came out through the bricks and caused efflorescence. A suitable remedy would be to use less of the British cement (and incidentally economise) so as to make a permeable mortar comparable to the foreign mortar. Efflorescence on brickwork is affected very considerably by atmospheric conditions, and appears and disappears as the weather changes, so that reliable conclusions cannot be drawn from a single comparison of brickwork of different ages. It may be added that the problem of efflorescence has not been overlooked, and that the Building Research Station has had in hand for some time extensive researches on this subject.]

Adhesive Tape.

SIR,—I should be grateful if any of your readers could tell me whether there is any kind of adhesive tape which could be used in hospital construction to cover the joint between door and window-frames and the plaster instead of the usual architrave. Such a tape would, of course, have to be sufficiently elastic to allow the necessary shrinkage of the wood, and tenacious enough to hold on to both surfaces after being painted and enamelled.

JOINTLESS.

Suction Pumps.

SIR,—I should like to know the maximum depth of well in which a suction pump can be efficiently used.

COUNTRY.

Damp Walls.

SIR,—A house, ground and first floor, has one side facing due east and the upper-floor brickwork is only 9 in. With much rain the insides of rooms are cold and the one side damp, so that the paper is loose in places. Will you please tell me what to do to stop the absorbing of so much damp and thus make the room dryer and warmer?

RICHARD WRIGHT.

Damp Ceiling.

[REPLY TO "PUZZLED, FEBRUARY 15.]

SIR,—Probably the joists where these strips of damp occurred were sodden with water at some time. It often happens that timber is stacked under cover, with perhaps one or two joists laid on the top of the sheets to weight them down. These may have slipped into the job. Provided they are in a well-ventilated position, there should be no cause for alarm, but the damp must work itself out, and until it has done so the damp strips will continue to show. Give this next summer a chance to correct the defect.

NOT WORRIED.

Insulation.

SIR,—Can you tell me how the insulating properties of a material (against heat) are measured, and how hair-felt compares with boiler composition and similar preparations?

BURST.

Frost.

SIR,—I should like to have the opinion of a practical man as to how long it will take the frost to get out of brickwork which has been attacked by it; I mean, such a severe frost as we have at the present time experienced. I am also anxious about plaster work. Some work has been pricked up just before the frost and appears to be all right; but am I safe to put the finishing coat on it shortly after the thaw, and how long should I wait before trusting the pre-frost work?

COUNTRY BUILDER.

Heating Test.

SIR,—If a firm tenders for a heating system guaranteeing a certain temperature under certain conditions, and fails to meet the test, can that firm be required to put in additional sections to the boiler if necessary, although this work was not included in their tender?

COLD.

Responsibility for Burst.

SIR,—We are building a £2,000 house for an engineer, and it is completed with the exception of painting. He put in his own engine for supplying water, as per contract, fitting the tanks, radiators, and boiler, using his own labour. He then went away for a week without giving us any instructions regarding the plumbing. Our plumber is ill in bed, and the painters know nothing of plumbing. We found one morning that two radiators and the boiler had burst, and there are many other frost bursts. The owner had the key; we had not formally handed the house over, but he had taken possession, and there is still an amount to be paid on completion. He seems to expect us to make good the damage. Under ordinary building practice, what is our position?

PROFIT AND LOSS.

Burst Mains Inquiry.

A special committee has been set up by the Surveyors' Institution to consider the dangers recently experienced in London from breaks in gas and water mains, and the possibility of protective measures.

THE WEEK IN PARLIAMENT

WESTMINSTER, *Wednesday.*

Town Planning.

DURING the report stage of the Local Government Bill, Mr. Harris moved an amendment to provide that local authorities should be required to prepare town-planning schemes by December 31, 1930, instead of January 1, 1939, as provided in the Act. He said that he desired to curtail the activities of the jerry builder and the land speculator. If it was a good thing to have town planning, the sooner local authorities were enabled to take effective steps the better.

Sir K. Wood, while agreeing with the necessity of town planning, and regretting that acts were being committed which were destroying the beauties and amenities of the country, said the question was, how could the object which they had at heart be achieved? There was nothing in the clause that could prevent any local authority coming forward as soon as they properly could with a town-planning scheme. The issue they had to decide was how soon could they impose compulsorily on local authorities the conditions that they would have to bring forward their plans. They wanted good town-planning schemes rather than quick schemes. Nothing could be more undesirable than that a local authority should, under cover of compulsion, bring forward hasty, ill-conceived and ill-considered schemes of town planning. The Government considered, in all the circumstances, the clause did not prevent a local authority from acting more quickly if they so desired, and he advised the House to adhere to the date mentioned in the Bill.

Mr. Wallhead, a Labour Member, said that all architects were in a state of perfect horror at the possibilities of the future in connection with the new arterial roads. For the sake of generations to come the House ought to restrict as far as possible the operations of the jerry-builder and the land-speculator. The beauty of the land ought to be preserved. The Government should take their courage in their hands and compel local authorities to do their part.

The amendment was negatived by 218 to 129.

The Bridges Bill.

The House of Lords have given a second reading to the Bridges Bill, a Government measure which seeks to facilitate the improvement and, where necessary, the reconstruction of weak bridges.

Slums and Compensation.

Sir R. Gower asked the Minister of Health whether he would consider the advisability of including in the legislation he proposed to initiate for the amendment of Section 46 of the Housing Act, 1927, provision that fair compensation should be paid by local authorities who had already carried out, or were in the course of carrying out, insanitary area-clearance schemes, to the owners of sound houses and other buildings which had been acquired by such authorities for the purposes of such schemes and to the owners of businesses carried on in such houses or other buildings.

Mr. Chamberlain said he assumed that Sir R. Gower had in mind Section 46 of the Housing Act, 1925. As at present advised, he doubted if it would be practicable to provide that any amendment of the law should have retrospective effect.

Proposed West End Theatre.

Mr. Philip Ridgeway, of Lymington-road, St. John's Wood, N.W.6, is considering a scheme for the erection of a new theatre in the West End to seat 3,000 people.

THE BUILDING TRADE

ROAD CHARGES—III

In our former two articles under this heading space compelled us to defer the consideration of some points under the Private Street Works Act, 1892, which we now propose to touch upon. In our second article we referred to section 15 of the Private Street Works Act, which confers a power upon local authorities at their discretion to contribute to the expenses of private street works, a power only lately extended to local authorities proceeding to have streets made up under the Public Health Act, 1875, by section 81 of the Public Health Act, 1925, but some distinction still exists between the two Acts, as the Private Street Works Act contains some further discretionary powers not contained in the Public Health Acts.

These powers are contained in section 10, which is as follows:—"In a provisional apportionment of expenses of private street works the apportionment of expenses against the premises fronting adjoining or abutting on the street or part of a street in respect of which the expenses are to be incurred shall unless the urban authority otherwise resolve be apportioned according to the frontage of the respective premises; but the urban authority may, if they think just, resolve that in settling the apportionment regard shall be had to the following considerations (that is to say): (*a*) the greater or less degree of benefit to be derived by any premises from such works; (*b*) the amount and value of any work already done by the owners or occupiers of any such premises; they may also if they think just include any premises which do not front, adjoin or abut on the street or part of the street, but access to which is obtained from the street through a court passage or otherwise, and which in their opinion will be benefited by the works, and may fix the sum or proportion to be charged against any such premises accordingly."

It is the latter part of this section to which we particularly desire to refer, but before we do so one or two observations may be made on the first portion. Our space does not enable us here to discuss the matter in detail, but no express provision corresponding to the above is contained in the Public Health Act, 1875, all that is provided by section 150 being that the expenses incurred shall be recovered "from the owners in default according to the frontage of their respective premises and in such proportion as is settled by the surveyor or in case of dispute by arbitration in manner provided by this Act." Although under the Private Street Works Act where power is given to include premises not actually fronting or abutting upon the street the question as to the benefit to be derived may arise, section 10 is not drawn so as to limit the discretion given in paragraph (*a*) to that case alone, and it is difficult to see in connection with premises actually "fronting, adjoining or abutting" on the street how any distinction can legitimately be drawn as to the degree of benefit derived by such premises. In practice we believe we are accurate in stating that local authorities appear to have recognised this, and under neither Act have they attempted to make any such distinction. If such a distinction were, however, made under the Public Health Act, the question could be submitted to arbitration, whereas if the local authority exercised the discretion given in the Private Street Works Act that discretion could not be questioned before the justices. (See Chester Corporation *v.* Briggs (1924, 1 K.B. 239; *The Builder*, March 28, 1924)). As we pointed out in our fifth article on "Making up New and Private Streets" (September 3, 1926), there is also some doubt whether even objection can be taken to this under section 7 (*f*), for under that paragraph objections in respect of the degree of benefit to be derived are limited to cases "where the provisional apportionment is made with regard to other considerations than frontage."

We cannot elaborate the point here, but it appears that a discretion which cannot be questioned is capable of abuse on such a point as the exact degree of benefit derived by premises actually abutting upon the street, and the necessity for it can only arise where premises not so abutting are included in the apportionment.

Before passing to that part of the section which relates to such premises we may, however, point out that paragraph (*b*) in the earlier part of the section also leaves in the discretion of the local authority a matter which the Committee on By-laws considered should be treated as a matter of right, for the Committee recommended that the local authorities should *not be allowed* at the stage of taking over to require the destruction of work executed in accordance with by-law or specification at the laying-out stage (as to this, see our first article), whereas paragraph (*b*) leaves it in their discretion whether they shall consider the amount and value of any work already done by the owners or occupiers of premises fronting, adjoining or abutting on the street.

If the law relating to making up streets comes to be revised, the above points will require consideration, and we think the two Acts should be brought into line. We now come to the last part of the section which gives the local authority a discretion to include in the provisional apportionment "any premises which do not front, adjoin or abut on the street or part of the street, but access to which is obtained from the street through a court, passage or otherwise, and to which, in their opinion, will be benefited by the works," and to fix the sum or proportion to be charged against any such premises accordingly.

The decisions that have been given under this part of the section are to some extent conflicting, and none of them are satisfactory, and local authorities are left in some doubt as to how they can act under it.

In Oakley *v.* Merthyr Tydfil Corporation (1922, 1 K.B. 409; *The Builder*, May 26, 1922) a terrace fronted upon a highway repairable by the inhabitants at large, but the terrace was bisected by a street running at right angles from that road at the front, and this was the street being made up. This street was only abutted upon by two houses in the terrace, Nos. 10 and 11. At the back of the houses in the terrace was a lane not ballasted, metalled or rolled, to which the houses had access at the back. In the apportionment this lane was treated as affording access from the street in question, and houses other than Nos. 10 and 11 had an apportionment made in respect of them. A Divisional Court reversed the finding of the magistrates that this lane came within the terms of the section "court, passage or otherwise," but the actual facts and finding are not so important as the expressions of opinion of the Court upon the effect of the section. The Court expressed it undesirable to give any exact definition of these words, but intimated that, although a court or passage need not be the only means of access to the street, yet it must be something in the nature of a feeder to the street.

The case of Newquay Urban District Council *v.* Rickeards (1911, 2 K.B. 846; *The Builder*, November 24, 1911), also decided by a Divisional Court, is only a little more helpful. There a certain street was being made up, and in the provisional apportionment the local authority had included certain land, access to which was obtained from the street over two partly made private streets. The justices had held that access was not obtained "through a court passage or otherwise," but the case was remitted to them with a direction that if they had considered that no means of access of greater width than a court or passage could be taken into account, that view would be erroneous; but, on the other hand, access over a public street would not be within the section, neither would access over a private street if it was in course of construction and intended to become a public street, but that a private street made primarily with the object of giving access would be within the section.

In Chatterton *v.* Glanford Rural District Council (1915, 3 K.B. 707), a Divisional Court, though agreeing with the above decision by holding that access to one part of a private street being made up, over another part not then being made up, would not fall within the section, laid it down that the words "court passage or otherwise" must be interpreted as meaning something in the nature of a court or passage, and there is much to be said in support of this view on account of the principle that, if particular words are followed by general expressions, the general expressions must be taken as indicating something *ejusdem generis* with the objects defined. There is no decision of the Court of Appeal on the question, and as it is entirely in the discretion of local authorities whether they shall adopt such an apportionment it is hardly to be wondered at that they hesitate to place themselves in a doubtful position in law.

It is to be observed that if the dicta delivered in Newquay Urban District Council *v.* Rickeards really represent the law, the section would meet what is required on building estates at any rate to a large extent. It is very common to find, branching out from the principal roads, short lengths of roads which can never become public roads in the ordinary sense of the word, as they are *culs-de-sac*. The dwellers on these *culs-de-sac* roads gain all the advantages provided by the roads they lead into, although they may be mere lanes hardly requiring making up; every necessary is brought to the houses on the neighbouring road, and the traffic adds to the wear of that road. These *culs-de-sac* are what in Oakley *v.* Merthyr Tydvil Corporation were termed "feeders to the street," and it is only reasonable that the frontagers on them should make some contribution according to the benefit they receive to the expenses of making up the road to which they act as "feeders."

Another class of road falling into the same category are lanes, not repairable by the inhabitants at large, with houses abutting upon them and which in the course of the development of the estate give no means of access except to roads constructed upon the estate. The owners of these houses enjoy the amenities of the new roads, which also provide improved means of access to the houses, in consequence of which, in many cases, the owners enlarge their houses and improve their properties, and the owners on such lanes should also be included in the apportionment according to the benefit they receive.

Owing to the use of the words "court or passage," local authorities, as we have shown, take a risk of litigation if such premises not actually fronting, adjoining or abutting on the new roads are included at all in the apportionment. The amendments in the law we venture to suggest are therefore firstly, that the words in the section, "court or passage," be amended so as to include the above cases we have indicated; secondly, that such premises shall be included in the apportionment, not as a mattter of discretion on the part of the local authority, but as of right, and thirdly, that similar powers shall be

added to the Public Health Acts so as to bring the two codes into line in this respect.

On this question as to discretion we may point out that there is more to justify a discretion under section 15 as to whether the local authority shall contribute to street works than there can be under section 10. In the former case the money of the ratepayers is involved, but no such consideration arises under section 10, which is only directed to securing an equality of burden as between frontagers and others who benefit by the means of access provided by the street. Any shifting of the burden under section 10 does not involve the ratepayers at all, and it is an act of justice to those frontagers on the street to receive some contribution from others who benefit by the access provided by the street and increase the wear upon it, and an act of justice should not depend upon the discretion of the local authority, but should be performed as a matter of right.

We have said above that the amendment here proposed would to a large extent meet the hardships experienced at present, and we used this expression because it does not entirely remove all cause of complaint. For instance, on many building estates there is one principal road and others of less importance, and the principal road bears all the wear in developing the estate and also the main traffic to all parts of the estate, and it has been contended that frontagers on the lesser roads should contribute towards this user of the principal road. We have not dealt with this grievance because where all the roads are intended to become public roads it seems to lead to too great refinement of adjustment. In this article we have confined ourselves to points arising under section 10 of the Private Street Works Act, but the suggestions we have made are by no means destructive of the more comprehensive suggestions contained in our first two articles, neither are they dependent upon them, as this section could be amended independently of the wider proposals; but if all the suggestions be taken together we venture to think all elements of hardship would be found to have been totally removed.

RESEARCH ON LIMES AND PLASTERS

AT the Northern Polytechnic, on February 7, a lecture on this subject was given by Mr. A. D. Cowper, M.Sc., A.I.C., of the Building Research Station, Department of Scientific and Industrial Research, Watford. Changing conditions in the building industry, he said, both as regards men and materials, had brought about a state of affairs such that recourse to modern methods of scientific research had become imperatively necessary. Research applied to building materials, both new and old, was the only means of solution of the many problems arising which would not be prohibitively expensive in the long run. The old empirical large-scale experiment was now far too costly and slow. In particular, owing to modern transport facilities, materials such as lime and plaster were now used far away from their point of origin, where a tradition of successful use according to a special locally-developed technique probably existed in the past. The old-time craftsman, with his sympathetic and almost instinctive knowledge of his materials and how to get the best out of them, was becoming rarer.

The Building Research Station of the Government Department of Scientific and Industrial Research had been established to carry out this kind of research. Where information was lacking or was inconclusive, fundamental research was undertaken to provide the necessary data; in addition, tests were made of current building materials to determine their qualities and suitability for particular purposes. Ordinary routine testing, such as that performed by the private technical consultant, did not, however, come within their scope. The first step in any research work was to collect all the available information from the literature of the subject, and also, in such a case as that of lime, from the experienced craftsmen who had studied the materials all their lives from a practical standpoint. The results of such a study were available, in the case of lime, in the form of a Building Research Special Report No. 9, "Lime and Lime Mortars" (H.M. Stationery Office, 1927); this Report did not incorporate any new research work, but provided a general review of the state of our knowledge of British limes in 1927, together with some bibliographical references. A considerable amount of work had been done subsequently in the Lime and Plaster Section of the Building Research Station, of which the lecturer was in charge: particularly in the direction of (a) collection of experimental data on British limes, (b) development of standardised methods of testing building limes, (c) attempting to draw up reasonable specification clauses for limes for different purposes in building, to replace the present extremely vague and unsatisfactory terminology, as had already been done for Portland cement and many other materials.

With regard to the testing of lime, the first step in making any test of quicklime, said the lecturer, was the proper, accurate sampling of the lime. Experimental investigation had proved quantitatively what was long known by skilful craftsmen, i.e., that the qualities of the lime putty prepared by slaking down quicklime depended to a large extent on the precise mode of slaking adopted, and on the care and skill exercised in carrying out the process. For the purposes of standard tests, which must be reproducible in the hands of many men, this traditional care and skill had to be substituted by some simple scientific control. A solution of this problem was provided by the Standard Isothermal Method proposed by Cowper and Williams (J.S.C.I., 1926, XLVII (6), 31), whereby a definite small quantity of quicklime crushed to a small size was slaked in an excess of water at a predetermined temperature, whilst being rapidly stirred, and then matured in a definite manner. In addition to analytical and other investigations of failures in lime plasters and mortars, practical panel tests had been carried out at the Station on stuccoes containing some Portland cement in addition to lime, on one-coat plastering, on coloured and white external stuccoes, and on the effect of different types of plaster surface on paint; these were illustrated by views.

In the case of gypsum plasters (plaster of Paris, moulding plaster, gauging plaster, hard wall plaster, Keene's cement, Parian cement, Martin's cement, etc.), whilst there was a very considerable body of literature available on the subject, if scattered, it had been found that this was so contradictory and unsatisfactory in general that little reliance could be placed on the information without first-hand experimental confirmation of it. Accordingly, though much information had been collected, a Special Report on this topic, similar to that on Lime already mentioned, had not yet been prepared. Experimental work had been in progress at the Station for some time, however, so that a few definite facts had come to light, incidentally confirming some of the work of one recent investigator in France.

The practical application of the results of investigations was indicated in the direction of the development of a properly and uniformly retarded gypsum plaster for building purposes, and of a hard Keene's cement type which would not vary in the irregular manner often noticed in commercial specimens, preferably prepared by the more economical single-burn process. Other fields of investigation were in the re-utilisation of used ceramic moulds, and in the very promising direction of the use of finely-ground alum-accelerated natural anhydrite in the place of the artificially calcined material.

The question of standard testing methods and of specifications was not yet prominent, though this was bound to arise in the near future, as it had in other countries. Meanwhile, the Station was collecting information and data, and developing testing methods, they had already examined a few of the very numerous brands of gypsum plaster available.

In conclusion, the lecturer extended a hearty invitation from the Director of Building Research to students of building science to visit the Station, and to make themselves familiar with the resources of the Station both as regards stored information, available through the Intelligence Section, and in laboratory and testing equipment.

CONTRACTS PLACED

Gainsborough. — HOTEL. — Messrs. Hewitt Brothers, Ltd., of the Tower Brewery Stores, have placed a contract with Mr. A. J. Elmes, North-street, for the reconstruction of the White Hart Hotel.

Hounslow.—SHOPS.—A block of six large shops is to be built on a site in Bell-road, to the plans of Messrs. Roper, Son & Chapman, architects and surveyors, of 247, High street. The builder is Mr. C. J. Piercey, Wellington-road North.

Hounslow.—SHOWROOMS.—The contract for the erection of the new showrooms, offices, etc., in the Bath and Staines Roads, for the Heston and Isleworth Electricity Committee, has been placed with Messrs. F. C. G. Cressy, Ltd., Brackley-road, W.4. The cost will be about £13,000.

Kingston-on-Thames. — RECONSTRUCTION.— Adjoining premises have been acquired by Messrs. Boots, Cash Chemists, and are to be reconstructed to form an enlargement of their branch at Market-square. The builders are Messrs. Limpus & Co., Kingston Hill. The architect is Mr. T. J. Bartlett, c/o Messrs. Boots' Cash Chemists, Nottingham.

Maidstone.—SHOWROOMS.—A large block of showrooms, to cost about £12,000. is to be built in Lower Stone-street for Messrs. Charles Arkcoll, Ltd. The builders will be Messrs. Cox Brothers, 22, Lower Stone-street. The architects are Messrs. Ruck & Smith, 86, Week-street, Maidstone.

Oxford.—BUILDING.—Large additions are being erected at the St. Edward's School, which include the extension of the dining-hall, new sanatorium, laboratory block, etc. The builders for the laboratory block are Messrs. Kingerlee & Sons, Oxford; whilst the architect is Mr. Brook Kitchin, F.R.I.B.A., Millbank House, Wood-street, S.W.1. A master's house is also being built by Messrs. Kimberley, of Banbury, to the plans of Mr. C. K. Shepherd, of Birmingham.

Petts Wood (Kent).—SHOPS.—Plans have been prepared by Messrs. Montague Holmes & Co., 33, Paternoster-row, E.C.4, for the erection of a large number of shops and flats on a new housing estate in Station-square. A contract for the first six shops has been placed with Mr. F. E. Knight, Bishop's-road, E.2.

Twickenham.—REBUILDING.—The restaurant and shops in King-street of the Zeeta Co., Kensington, are to be pulled down and rebuilt. The builders are Messrs. James R. Offer & Son, Ltd., Union-street, Kingston-on-Thames. The plans have been prepared by Mr. Edward J. Partridge, F.R.I.B.A., Bank-chambers, Richmond-on-Thames.

A Correction.

With respect to our review of Mr. Laurence Turner's "Decorative Plasterwork in Great Britain" (*Country Life*) in our issue for February 8, we have to point out that the price is three guineas, not two guineas as mentioned.

NEW BUILDINGS IN LONDON

Barking.—HOUSE.—The L.C.C. recommend that the estimate of £610,000, submitted by the Finance Committee in respect of the development of the Barking (No. 12) section of Becontree to cover the cost of the erection of about 1,151 houses and flats, with the necessary road and sewer work.

Bermondsey. — PREMISES. — The London County Council has sanctioned the erection of "The Prince of Wales" beerhouse, 105, Bevington-street, Bermondsey. The application has been made by Mr. W. Stewart, on behalf of Mann, Crossman & Paulin, Ltd.

Bermondsey.—HOUSING.—The L.C.C. has passed a recommendation that, subject to any necessary consents, the plot of land, having an area of about 6,850 square feet, and frontages to Jacob-street and Farthing-alley, Bermondsey, be sold to the Bermondsey Borough Council for housing improvements.

Bethnal Green.—FLATS.—The Bethnal Green Housing Association, a public utility society formed in connection with the St. Margaret's House and Oxford House Society, has placed a contract with Messrs. C. Miskin and Sons, Ltd., 21, Bedford-row, W.C.1, for the erection of a block of 15 flats on a site in St. Jude-street, E. The plans have been prepared by Mr. Ian B. M. Hamilton, F.R.I.B.A., of 16, Old-buildings, Lincoln's Inn, W.C.

Chelsea.—SHOPS.—A contract has been placed with Messrs. Hammond and Barr, Ltd., 52, Beauchamp-place, Chelsea, S.W., for the erection of the large block of shops and flats in King-street, S.W.3, for the Midland Shop Properties, Ltd. The plans are by Messrs. Hillier, Parker, May and Rowden (Surveyors' Department), 27, Maddox-street, W.1. The quantity surveyor is Mr. Horace W. Langdon, 292, High Holborn, W.C.

Chelsea.—FLATS.—The contract for the superstructure of the large block of tenement flats to be erected for the Guinness Trustees has been placed with Sir Walter Lawrence & Son, Ltd., of Sun-street, Finsbury-square, E.C.2. The plans have been prepared by Messrs. Joseph, 2, Paul's Bakehouse-court, Godliman-street, E.C.4.

City-road.—EXTENSIONS.—An appeal is being made for funds to enable a start to be made upon the erection of the proposed extensions of the City of London Maternity Hospital, E.C.1. A sum of £50,000 is to be expended upon a new home for 80 nurses, etc. The architects are Messrs. Brown and Barrow, Lennox House, Norfolk-street, Strand, W.C.2.

Cricklewood.—FACTORY.—Plans are being prepared for the erection of large factory and garage premises in Edgware-road for Messrs. Humber, Ltd., motor manufacturers. The architects are Messrs. Edward Howard and Partners, 32, St. James's-street, S.W.1.

Deptford.—BUILDING.—The Metropolitan Water Board has approved the tender of Messrs. William Moss & Sons, Ltd., of North Circular-road, N.W.2, of £62,627 2s. 2d., for the construction of an engine-house, boiler-house, chimney-shaft, elevated coal bunkers, coal unloading and ash disposal subway, roads, bridge over the River Ravensbourne, weighbridge house, drainage and other contingent works at the Board's Deptford works at Brookmill road, Deptford.

Ealing.—EXTENSION.—The Ministry of Health has now authorised the expenditure of £64,000 on extending the Town Hall for the Ealing Town Council.

Edgware.—PUBLIC-HOUSE.—Messrs. Truman, Hanbury, Buxton and Co., Ltd., Spitalfields Brewery, E.1, have acquired a site at the corner of Kingsbury-lane and Church-lane, where a new public-house is to be erected. The plans have been prepared by Mr. E. A. Sewell, L.R.I.B.A., 81, Brick-lane, Spitalfields, E.1.

Essex-street.—PREMISES.—A large site is being cleared of old buildings preparatory to the erection of a block of premises for the directors of the *Illustrated London News* and *Sketch* journals. The building will be of five floors, and has been designed by Messrs. George and T. S. Vickery, FF.R.I.B.A., of 50, Gresham-street, E.C.2.

Euston-road.—HOME.—The St. Pancras Borough Council has given consent to the erection of a nurses' home, at the Elizabeth Garrett Anderson Hospital, Euston-road, upon the sites of Nos. 130 to 134, Euston-road.

Greenwich.—HOUSES.—For erection and completion of 79 of "A3" type on the Charlton Park Site, the Greenwich B.C. are now inviting tenders. Plans are by the Borough Engineer.

Hendon.—CLINIC.—The Hendon U.D.C. has acquired a site at the corner of Edgware-road and York-road, N.W., where it is proposed to build a maternity and child welfare clinic. The plans are being prepared under the direction of Mr. A. O. Knight, the council's surveyor.

High Holborn.—PREMISES.—A large site in Goldsmith-avenue, W.C.1, at Nos. 7-11, has been sold by Messrs. Yates and Yates, of Hanover-square, W., for building purposes. The new owners will erect a block of new business premises. The contract has been placed with Sir Walter Lawrence and Son, Ltd., 31, Sun-street, Finsbury-square, E.C.2. The plans have been prepared by Messrs. W. H. Woodroffe and Son, 5, Bedford-row, Bloomsbury, W.C.

Highgate.—BUILDINGS.—New buildings are to be erected adjoining the Drill Hall, Highgate, N.6. The architect is Mr. S. W. Cranfield, F.R.I.B.A., of 7, Bedford-square, W.C.1, and the builder is Mr. S. G. Goulding, of 57, High-street, Hornsey, N.8.

Hounslow.—AERODROME.—A contract for the erection of the first section of the scheme of the Airwork Co., for the proposed aerodrome at Heston, has been placed. The contractors are Messrs. A. Jackaman and Sons, Ltd., of Mackenzie-street, Slough, Bucks.

Islington.—FLATS.—The tender of Mr. R. Mansell, of Grant-road, Croydon, Surrey, has been recommended for acceptance for erection of 40 flats in Avenell-road, Highbury, for the Islington Borough Council. The tender price is £22,870.

Jewry.—RESTORATION.—The vicar and wardens of St. Lawrence, Jewry, Church have decided to raise a sum of £6,000 to carry out necessary repairs and restoration works to the timbering of the church tower and to repair the fabric of the edifice. A report on the building has been made by Mr. Edgar S. Underwood, F.R.I.B.A., of 3, Queen-street, Cheapside, E.C.4.

Kentish Town.—GARAGE.—Messrs. Yates and Yates, Hanover-square, W.1, have sold a large block of premises in Leigham-road. The new owners, the City Omnibus Co., intend to convert the property into a garage and repair depot.

Merton.—PREMISES.—The new off-licence now being erected (as announced in our issue of February 1) at the junction of Kenley and Morden-roads, has been designed by Mr. Robert Muir, F.R.I.B.A., and the contract has been let to Messrs. Somerford & Son, Ltd., of Clapham.

Moorgate.—CONVERSIONS.—The large block of offices formerly known as Soviet House, has been acquired by the New Consolidated Goldfields, Ltd., who are to convert the building into new headquarters. The contract for the work has been placed with Messrs. Waring and Gillow, Ltd., Oxford-street, W.

Piccadilly.—BANK.—The directors of the Bank of Scotland have acquired premises at Nos. 16-18, which are to be converted into new West End branch premises. The plans for the alterations are being prepared by Messrs. Campbell Jones, Son and Smithers, 9, Dowgate-hill, Cannon-street, E.C.4.

Ponders-end. — ADDITIONS. — Messrs H Yager (London), Ltd., are issuing additional capital to enable further additions to be made to their factory premises at Wharf-road. The plans have been prepared by Messrs. Dunsmore Bros., Survey House, 54A, Brockley-rise, Honor Oak, S.E.23.

Queen Victoria-street. — PREMISES. — The G.P.O. are proposing to demolish its building in Queen Victoria-street, E.C., and to erect on the site new premises better adapted for wireless telephony business.

Regent's-park.—GARAGE.—A large site in Park-road, N.W.1, has been acquired by the Auto Sales Co., of Great Portland-street, W., who have decided to build a garage with accommodation for about 500 cars. The plans have been prepared by Mr. A. G. Stedman, 317, High Holborn, W.C.

Regent's-park.—CLINIC.—The British Red Cross Society have decided to proceed with their scheme for the conversion of the large residence in Regent's-park-road and Petoplace, N.W.1, into a clinic for the cure of rheumatic diseases. The contract has been placed with Mr. E. H. Burgess, 45, Berners-street, W.1. The plans for the works have been prepared by Mr. Thomas A. Pole, F.R.I.B.A., of 10-11, Jermyn-street, St. James's, S.W.1.

Richmond.—EXTENSIONS. — Messrs. Marks and Spencers, Ltd., Chiswell-street, E.C.1, have acquired the premises at Nos. 9, 10 and 11, The Quadrant, in order to carry out the extension of their branch showrooms at No. 8. The plans have been prepared by Mr. A. E. Batzer, 36, Ebury-street, Westminster, S.W.

Torrington-square.—FLATS. — The contract for the conversion of four houses into flats for the University of London has been placed with Messrs. W. T. Lawrence and Co., 12, Tavistock-place, W.C.1. The architect is Mr. W. J. Walford, F.R.I.B.A., Leadenhall-buildings, 1, Leadenhall-street, E.C.3.

Victoria-street.—REBUILDING. — Demolition work has just commenced upon the premises at Nos. 144 and 146, in connection with the rebuilding of the block comprising Nos. 144-150, for Messrs. Moysey Stevens, florists. The contractors are Messrs. Willment Bros., Baltic Wharf, Waterloo-road, S.E., and the builders for the new premises are Messrs. Bovis (1928), Ltd., 43, Upper Berkeley-street, W.1. The architect is Mr. J. Stanley Beard, F.R.I.B.A., of 101, Baker-street, W.1.

Wandsworth. — REBUILDING. — The Royal Brewery, Brentford, Ltd., have decided to carry out the rebuilding and extension of their "White Lion" public-house at Summerstown, S.W. The new building has been designed by Mr. Nowell Parr, F.R.I.B.A., 42, Cranley-gardens, South Kensington, S.W.7. The quantity surveyors are Messrs. Robinson and Roods, 37, Bedford-row, W.C.

Westminster.—SHOPS.—Property in Vauxhall Bridge-road, S.W.1, is being converted into shops and showrooms. The contractors are Messrs. Holloway Bros. (London), Ltd., Bridge Wharf, Grosvenor-road, S.W.1. The steelwork will be provided by Messrs. H. Young and Co., Ltd., Nine Elms Ironworks, Battersea, S.W., and the shop fronts will be by Messrs. E. Pollard and Co., Ltd., 159, St. John-street, Clerkenwell, E.C. The architect is Mr. Ashley S. Killby, L.R.I.B.A., High-street, Tunbridge Wells.

Willesden.—PREMISES. — Messrs. Watney, Combe, Reid and Co., Ltd., of the Stag Brewery, Westminster, S.W., have acquired a site in Neasden-lane, N.W., for the purpose of erecting a new public-house. The plans have been prepared by Messrs. F. J. Fisher and Son, architects, of 35, John-street, Bedford-row, W.C.1.

Wimpole-street.—REBUILDING.—The large building at No. 95 is to be rebuilt in order to provide new office accommodation for Messrs. Debenhams, Ltd., the drapers. The plans have been prepared by Messrs J. S. Gibson and Gordon, 5, Old Bond-street, W.1.

Woolwich. — HOUSING. — The Woolwich Borough Council have decided to negotiate with the Commissioners of Crown Lands for the purchase of 342 acres on the south side of Eltham-road for a housing site.

Worcester-park.—HOUSES.—The large freehold estate, known as Fullbrooks, a large mansion, with two entrance lodges, etc., has just been sold with 34 acres, and is to be developed by the erection of a large number of houses and flats, etc. The surveyors are Messrs. Rosevears, F.S.I., East Sheen, S.W.

FUEL ECONOMY

In the course of a paper on "Fuel Economy and the Small Steam User," read before the Institute of Fuel on Wednesday, February 13, Mr. W. F. Goodrich, M.B.E., said broadly, the common difficulties and shortcoming in connection with small steam installations might be summarised as follows, although it was not claimed that the list, formidable as it was, was exhaustive:—(1) the use of unsuitable or inefficient and incomplete plant; (2) the use of suitable plant badly arranged, and badly operated, or both; (3) lack of managerial interest, supervision, and control; (4) lack of skilled operation; (5) lack of knowledge as to the results obtained; (6) lack of knowledge of the primary essentials in efficient steam generation; (7) lack of systematic and regular inspection and maintenance; (8) lack of attention to feed water treatment; (9) high exit gas temperature; (10) heavy loss due to air infiltration and excessive air supply; (11) lack of economisers; (12) lack of superheaters; (13) failure to keep boilers clean internally and externally; (14) failure to provide means for weighing coal and measuring water, or instruments; (15) the purchase and use of coal without any apparent regard for or knowledge as to its suitability; (16) lack of disinterested or impartial advice.

There could be no doubt that the choice of the type of steam boiler and its accessories was one of the most important factors in providing for efficient steam generation. Boilers of the vertical type had made very considerable headway, and while realising that to many small steam-users the ordinary cross tube vertical boiler was a very cheap and convenient steam generator, from the point of view of thermal efficiency it had disadvantages. Included in the category of vertical boilers was, of course, not only the ordinary plain cross tube boiler, but also multitubular vertical boilers, which generally were well worth their extra capital cost, and which provided a much higher ratio of heating surface to grate area. If boiler makers or users could only be brought to appreciate the limitations of the vertical boiler from the standpoint of satisfactory combustion conditions they would recommend and use low-volatile fuels only. It was submitted that for the larger sizes of vertical boilers of the multi-tubular type the provision of a specially designed economiser was essential, and that it would warrant the capital expenditure involved.

In the case of horizontal boilers which were operated well below their evaporative capacity, grates could often be reduced with considerable advantage to the extent of even 2 ft. in length. If the grate area was reduced, the rate of combustion increased to 20 pounds per square foot of grate per hour, and the grate kept covered, the complete boiler unit would show an astonishing improvement in efficiency. Cases had come under his observation where super-heaters were practically useless, and economisers very disappointing in their performance until the grates were reduced in length.

With regard to the selection of the most suitable and efficient fuels for steam generation, it was no exaggeration to state that to a very large extent there had been and was no sound and approved method of selection. Hence it was that some of the best high volatile fuels eminently suitable for carbonisation were sold to be wastefully burned under such combustion conditions as could only result in inefficiency. Meanwhile some of the best seams of gas coal were being steadily depleted.

Every steam boiler irrespective of type should be supplied with good feed water treated externally to the boiler, and the boiler should have skilled attention and care. Such procedure would pay. If this were generally recognised the small steam user would have taken some definite steps towards efficiency in steam generation.

Referring to the mechanical stoker, the lecturer said that while it cut out the human element up to a certain point, experience had shown that too often the maintenance cost was much too high, not as a general rule because of inherent defects in the machine, but much more often because of neglect. It could not be too strongly emphasised that the adoption of machine firing did not do away with the necessity for skilled operation and attention.

LONDON MASTER ASPHALTERS' ASSOCIATION

THE ninth annual dinner of this Association took place at Frascati's Restaurant on Tuesday evening last, when Mr. T. H. Knight occupied the chair. The gathering was an unusually large one, and included a number of visitors from the Northern Asphalte Association. Amongst those present were Col. Dixon-Spain, F.R.I.B.A., Mr. Victor Wilkins, F.R.I.B.A., and Mr. T. S. Darbyshire.

After the customary loyal toasts had been honoured, the toast of the Master Asphalters' Association was proposed by Mr. A. Strachan Bennion, F.S.I., coupled with the name of Mr. Knight, of the French Asphalte Co. Mr. Bennion expressed appreciation of the services of the past chairman, and acknowledged their good fortune in having Mr. Knight to carry on.

Mr. Knight, in reply, referred to the absence of many members that evening on account of ill-health. These included Mr. Faldo and his son, and their treasurer.

The toast of the Visitors was proposed by Mr. J. B. London, and replied to by Mr. J. Woodward Aston (Master of the Worshipful Company of Paviors) and Capt. H. Quinney (past-president of the Northern Asphalters' Association).

At this juncture Mr. Knight presented to Mr. A. J. Bevan a gold cigarette case as a mark of their appreciation of his services during 1927.

Mr. Bevan acknowledged the gift in an appropriate speech.

The toast of "The Immediate Past Chairman," Mr. R. A. Daniells, was proposed by Mr. G. Mitchell, and responded to by Mr. Daniells.

The chairman at the conclusion of the toast list, expressed his appreciation of the able manner in which their secretary, Mr. Hutchinson, had carried through the necessary arrangements for the evening.

During the evening the company were entertained by well-known artistes.

Portland Cement for Egypt.

The Commercial Secretary at Cairo (Mr. R. M. A. Turner, O.B.E.) reports that the Egyptian Ports and Lighthouses Administration is calling for tenders, to be presented in Alexandria by March 28, for the supply of 650 tons of Portland cement. Firms desirous of offering cement of British manufacture can obtain further particulars upon application to the Department of Overseas Trade, 35, Old Queen-street, London, S.W.1. Reference Number BX. 5117 should be quoted.

Fireclay and Silica Bricks.

The officer-in-charge of His Majesty's Trade Commissioner's office at Winnipeg reports that a local firm is desirous of being placed in touch with United Kingdom manufacturers of fireclay and silica bricks with a view to obtaining supplies. Firms desirous of offering fire and silica bricks of British manufacture can obtain further particulars of this inquiry upon application to the Department of Overseas Trade, 35, Old Queen-street, London, S.W.1. Reference number BX. 5104 should be quoted.

TRADE NEWS

Change of Address.

The new address of the French Asphalte Co., Ltd., on and after February 26, will be Iddesleigh House, Caxton-street, Westminster, London, S.W.1. Telephone numbers: Victoria 1953-1954. Telegrams: Asphales, Sowest, London.

Diaries and Calendars.

We acknowledge with thanks the receipt of diaries or catalogues from Messrs. King's Patent Agency, Ltd., and the C. and S. Construction Co.

We have received from Messrs. Austins (East Ham), Ltd., makers of standard joinery, mouldings, doors, casements, gates, etc., one of their combined calendar-catalogues for 1929. The calendar is of the tear-off variety, and a pocket at the back holds the catalogue, which is a well-produced and useful booklet, containing a wide variety of joinery details, all of which are illustrated and accompanied by sizes and prices.

A Timber Stock List.

Messrs. Sydney Priday & Snewin, Ltd., of Oak Wharf, Stamford Hill, N.16, have sent us a copy of their February Stock List of wainscot oak, Japanese oak, mahogany, teak, etc. The list includes two interesting photographic illustrations, one a general view of the wharf, and the other a detail of wainscot oak billets, showing how hardwoods are handled. The accurate sticking of each board and plank for seasoning purposes, it is pointed out, greatly improves their value, as they are thus prevented from twisting and shaking. To meet increasing trade, the company has taken over further ground, and a new range of sheds has been built to accommodate shedded parcels. All who are interested are invited to inspect the stocks at Oak Wharf.

Sale of Plant and Machinery.

Attention is called to an announcement in our advertising columns of a sale by public auction of saw-mill plant and machinery by Messrs. Joseph Hibbard & Sons, at Kentish Town, N.W.5, on Tuesday, March 12. It will be seen that an excellent range of high-class machinery is offered, together with a quantity of surplus timber, etc. Catalogues may be had on application to the auctioneers' offices, 15, Newington Green, Islington, N.16.

NEW CINEMAS

Glasgow. — Mr. Thomas Ormiston, of Motherwell, has made a successful application to the Glasgow Dean of Guild Court for the erection of a cinema in Cumbernauld-road, on the Carntyne housing estate. The building will accommodate about 1,500 people.

Hampstead.—Tenders are about to be invited for the erection of the proposed new cinema, to be built on a prominent site in the Finchley-road, N.W., which will be capable of accommodating about 2,400 persons and will cost over £150,000. The architects are Messrs. Yates, Cook & Darbyshire, 43, Great Marlborough-street, W.1. The quantity surveyors are Messrs. W. E. Writer & Partners, 43, Great Marlborough-street, W.1.

Leicester.—A new company has been formed, under the name of Princes (Leicester), Ltd., National-chambers, 4, Horsefair-street, Leicester, to acquire the freehold property of 87, Granby-street, Leicester, and to erect upon the site a cinematograph theatre or other place of entertainment, etc.

Leigh-on-Sea (Essex).—A new cinema is to be erected by a new company, called the South Essex Cinema Syndicate, Ltd., of 96, Lord Roberts-avenue, Leigh-on-Sea, Essex. The site is in Leigh-road

A Village Hall.

With reference to the design for a Village Hall, National Eisteddfod of Wales Competition, illustrated on page 341b of our last issue, we are informed that first place was shared by Messrs. Clare & Hartland jointly with Mr. G. Bellis, of Didsbury, Manchester, who, of course, submitted a separate design.

RATES OF WAGES IN THE BUILDING TRADE

[Every endeavour is made to ensure accuracy but we cannot be responsible for errors.]

	Masons.	Bricklayers.	Carpenters Joiners.	Plasterers.	Slaters.	Plumbers.	Painters.	Labourers.
Aberdare	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/2½
Accrington	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/2½
Aldershot	1/4	1/4	1/4	1/4	1/4	1/4	1/4	1/0
Alfreton	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/2½
Alnwick	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/2½
Altrincham	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/2½
Ashford Kent	1/4	1/4	1/4	1/4	1/4	1/4	1/4	1/0
Ashington	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/2½
Ashton-under-Lyne	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/2½
Aylesbury	1/4	1/4	1/4	1/4	1/4	1/4	1/4	1/0
Aylsham	1/4	1/4	1/4	1/4	1/4	1/4	1/4	1/0
Banbury	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/0½
Barnsley	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/2½
Barnstaple	1/5	1/5	1/5	1/5	1/5	1/5	1/5	1/0½
Barrow-in-Furness	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/2½
Barry	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/2½
Basingstoke	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/0½
Bath	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/1½
Bedford	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/1½
Berwick	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/2
Bexhill	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/0½
Birkenhead	1/10	1/10	1/10	1/11	1/10	1/10	1/9½	1/4½
Birmingham	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/2½
Bishop Auckland	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/2½
Blackburn	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/2½
Blackpool	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/2½
Bolton	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/2½
Bournemouth	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/1½
Bradford	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/2½
Bradford-on-Avon	1/4	1/4	1/4	1/4	1/4	1/3	1/3	1/0
Braintree	1/5	1/5	1/5	1/5	1/5	1/5	1/5	1/0½
Brentwood	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/2
Bridgwater	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/0½
Bridlington	1/7	1/7	1/7	1/7	1/7	1/7	1/7	1/2½
Brighton	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/1½
Bristol	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/2½
Bromsgrove	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/2
Bromyard	1/3½	1/3½	1/3½	1/3½	1/3½	1/3½	1/3½	11½
Bungay	1/3	1/3	1/3	1/3	1/3	1/3	1/3	11½
Burnley	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/2½
Burton-on-Trent	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/2½
Bury	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/2½
Buxton	1/7	1/7	1/7	1/7	1/7	1/7	1/7	1/2½
Cambridge	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/1½
Canterbury	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/0½
Cardiff	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/2½
Carlisle	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/2½
Chatham	1/5	1/5	1/5	1/5	1/5	1/5	1/5	1/0½
Chelmsford	1/5	1/5	1/5	1/5	1/5	1/5	1/5	1/0½
Cheltenham	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/1½
Chester	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/2½
Chesterfield	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/2½
Chorley	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/2½
Cirencester	1/4½	1/4½	1/4½	1/4½	1/4½	1/3½	1/3½	1/0½
Clacton	1/5	1/5	1/5	1/5	1/5	1/5	1/5	1/0½
Colchester	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/1½
Coventry	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/2½
Cranbrook	1/3	1/3	1/3	1/3	1/3	1/3	1/3	11½
Crewe	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/1½
Cromer	1/4	1/4	1/4	1/4	1/4	1/4	1/4	1/0
Darlington	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/2½
Deal	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/0½
Denbigh	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/1½
Derby	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/2½
Devizes	1/4	1/4	1/4	1/4	1/4	1/4	1/3	1/0
Dewsbury	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/2½
Doncaster	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/2½
Dorchester	1/4	1/4	1/4	1/4	1/4	1/4	1/3	1/0
Dorking	1/5	1/5	1/5	1/5	1/5	1/5	1/5	1/0½
Dovercourt	1/5	1/5	1/5	1/5	1/5	1/5	1/5	1/0½
Driffield	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/1½
Droitwich	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/1½
Dudley	1/7	1/7	1/7	1/7	1/7	1/7	1/7	1/2½
Durham	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/2½
Eastbourne	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/1½
E. Glam. (Mon. Val.)	1/7	1/7	1/7	1/7	1/7	1/7	1/7	1/2½
Ely	1/4	1/4	1/4	1/4	1/4	1/4	1/4	1/0
Exeter	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/5½	1/2
Exmouth	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/0½
Fakenham	1/4	1/4	1/4	1/4	1/4	1/4	1/4	1/0
Felixstowe	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/1½
Folkestone	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/0½
Frome	1/4	1/4	1/4	1/4	1/4	1/4	1/3	1/0
Glossop	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/2½
Gloucester	1/6	1/6	1/6	1/6	1/6	1/6	1/5	1/1½
Godalming	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/0½
Goole	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/2
Gosport	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/1½
Grantham	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/1½
Great Yarmouth	1/5	1/5	1/5	1/5	1/5	1/5	1/5	1/0½
Grimsby	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/2½
Guildford	1/5	1/5	1/5	1/5	1/5	1/5	1/5	1/0½
Halifax	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/2½
Harpenden	1/5	1/5	1/5	1/5	1/5	1/5	1/5	1/0½
Harrogate	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/2½
Hartlepools	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/2½
Harwich	1/5	1/5	1/5	1/5	1/5	1/5	1/5	1/0½
Hastings	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/0½
Hatfield	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/1½
Hednesford	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/2
Hereford	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/4½	1/1½
Herne Bay	1/4	1/4	1/4	1/4	1/4	1/4	1/4	1/0
Hertford	1/5	1/5	1/5	1/5	1/5	1/5	1/5	1/0½
Hitchin	1/5	1/5	1/5	1/5	1/5	1/5	1/5	1/0½
Hoddesdon	1/5	1/5	1/5	1/5	1/5	1/5	1/5	1/0½
Holt	1/3	1/3	1/3	1/3	1/3	1/3	1/3	11½
Huddersfield	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/2½
Hull	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/2½
Hunstanton	1/4	1/4	1/4	1/4	1/4	1/4	1/4	1/0
Huntingdon	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/0½
Isle of Wight	1/4	1/4	1/4	1/4	1/4	1/4	1/4	1/0
Ipswich	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/1½
Keighley	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/2½
Kettering	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/1½
Kidderminster	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/2
King's Lynn	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/0½
Lancaster	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/2½
Leamington Spa	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/2

	Masons.	Bricklayers.	Carpenters Joiners.	Plasterers.	Slaters.	Plumbers.	Painters.	Labourers.
Leeds	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/2½
Leicester	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/2½
Leighton-Buzzard	1/4	1/4	1/4	1/4	1/4	1/4	1/4	1/0
Lichfield	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/1½
Lincoln	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/2½
Littlehampton	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/0½
Liverpool	1/10	1/10	1/10	1/11	1/10	1/10	1/9½	1/4½
Llandudno	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/1½
Llanelly	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/2½
London:								
12 m. radius	1/9	1/9	1/9	1/9*	1/9	1/9	1/8	1/4
12-15 m. radius	1/8½	1/8½	1/8½	1/8½*	1/8½	1/8½	1/7½	1/3½
Loughborough	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/2½
Lowestoft	1/5	1/5	1/5	1/5	1/5	1/5	1/5	1/0½
Luton	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/1½
Macclesfield	1/7	1/7	1/7	1/7	1/7	1/7	1/7	1/2½
Maidstone	1/5	1/5	1/5	1/5	1/5	1/5	1/5	1/0½
Malvern	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/1½
Manchester	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/2½
Mansfield	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/2½
Margate	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/0½
Market Harb'rough	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/1½
Matlock	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/1½
Melton Constable	1/3	1/3	1/3	1/3	1/3	1/3	1/3	11½
Melton Mowbray	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/2
Merthyr Tydfil	1/7	1/7	1/7	1/7	1/7	1/7	1/7	1/2½
Middlesbrough	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/2½
Newark	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/1½
Newbury	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/0½
Newcastle-on-Tyne	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/2½
Newcastle-ur-Lyme	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/2½
New Forest	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/0½
Newmarket	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/0½
Newport, Mon.	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/2½
Northampton	1/7	1/7	1/7	1/7	1/7	1/7	1/7	1/2½
Norwich	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/2
Nottingham	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/2½
Nuneaton	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/2½
Oakham	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/1½
Oldham	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/2½
Oxford	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/1½
Paignton	1/7	1/7	1/7	1/7	1/7	1/7	1/7	1/2½
Peterborough	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/1½
Plymouth	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/6½	1/2½
Pontypridd	1/7	1/7	1/7	1/7	1/7	1/7	1/7	1/2½
Portsmouth	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/1½
Preston	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/2½
Ramsgate	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/0½
Reading	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/1½
Redcar	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/2½
Redditch	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/2
Reigate	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/1½
Retford	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/1½
Ripon	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/1½
Rochdale	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/2½
Rochester	1/5	1/5	1/5	1/5	1/5	1/5	1/5	1/0½
Rugby	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/2½
Saffron Walden	1/3½	1/3½	1/3½	1/3½	1/3½	1/3½	1/3½	11½
St. Albans	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/1½
St. Helens	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/2½
Sawbridgeworth	1/5	1/5	1/5	1/5	1/5	1/5	1/5	1/0½
Saxmundham	1/3½	1/3½	1/3½	1/3½	1/3½	1/3½	1/3½	11½
Scarborough	1/7	1/7	1/7	1/7	1/7	1/7	1/7	1/2½
Sevenoaks	1/5	1/5	1/5	1/5	1/5	1/5	1/5	1/0½
Sheffield	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/2½
Shrewsbury	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/1½
Sittingbourne	1/4	1/4	1/4	1/4	1/4	1/4	1/4	1/0
Southampton	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/1½
Southend-on-Sea	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/2
Southport	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/2½
South Shields	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/2½
Stevenage	1/5	1/5	1/5	1/5	1/5	1/5	1/5	1/0½
Stockport	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/2½
Stockton-on-Tees	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/2½
Stoke-on-Trent	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/2½
Stourbridge	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/2
Stourport	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/2
Stowmarket	1/4	1/4	1/4	1/4	1/4	1/4	1/4	1/0
Stratford-on-Avon	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/1½
Stroud	1/5	1/5	1/5	1/5	1/5	1/5	1/4½	1/0½
Sunderland	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/2½
Swaffham	1/3	1/3	1/3	1/3	1/3	1/3	1/3	11½
Swansea	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/2½
Swindon	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/4½	1/1½
Tamworth	1/7	1/7	1/7	1/7	1/7	1/7	1/7	1/2½
Taunton	1/5	1/5	1/5	1/5	1/5	1/5	1/5	1/0½
Thetford	1/4	1/4	1/4	1/4	1/4	1/4	1/4	1/0
Torquay	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/2½
Totnes	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/0½
Trowbridge	1/4	1/4	1/4	1/4	1/4	1/4	1/3	1/0
Tunbridge Wells	1/5	1/5	1/5	1/5	1/5	1/5	1/5	1/0½
Uttoxeter	1/5	1/5	1/5	1/5	1/5	1/5	1/5	1/0½
Wakefield	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/2½
Walsall	1/7	1/7	1/7	1/7	1/7	1/7	1/7	1/2½
Wallsend	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/2½
Warminster	1/4	1/4	1/4	1/4	1/4	1/4	1/3	1/0
Warrington	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/2½
Warwick	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/2
Wells (Norfolk)	1/3	1/3	1/3	1/3	1/3	1/3	1/3	11½
Welwyn Gar. City	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/1½
West Bromwich	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/2½
Weston-sup.-Mare	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/1½
Weymouth	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/0½
Whitby	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/2
Wigan	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/2½
Winchester	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/0½
Windsor	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/1½
Wisbech	1/4	1/4	1/4	1/4	1/4	1/4	1/4	1/0
Wolverhampton	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/2½
Woodbridge	1/4	1/4	1/4	1/4	1/4	1/4	1/4	1/0
Worcester	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/1½
Worksop	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/1½
Worthing	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/0½
Wrexham	1/7	1/7	1/7	1/7	1/7	1/7	1/7	1/2½
Wroxham	1/3	1/3	1/3	1/3	1/3	1/3	1/3	11½
Wymondham	1/3½	1/3½	1/3½	1/3½	1/3½	1/3½	1/3½	11½
York	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/2½

* The rate recognised by the National Association of Plasterers, Granolithic and Cement Workers, is 1/11½ per hour.

For Building Trade wages in Scotland, see page 402.

CONTRACTS, COMPETITIONS, &c.

For some contracts still open, but not included in this List, see previous issues. Those with an asterisk are advertised in this number. Certain conditions beyond those given in the following information are imposed in some cases, such as that advertisers do not bind themselves to accept the lowest or any tender; that a fair wages clause shall be observed, that no allowance will be made for tenders; and that deposits are returned on receipt of a bona-fide tender unless stated to the contrary.

The date given is the latest date when the tender, or the names of those willing to submit tenders, may be sent in, the name and address at the end is the person from whom or place where quantities, forms of tender, etc., may be obtained.

Following is a list of abbreviations:—Borough Surveyor, B.S.; Borough Engineer, B.E.; District Surveyor D.S.; Clerk, C.; Town Clerk, T.C.; County Engineer, C.E.; County Surveyor, C.S.; County Architect, C.A.; Surveyor, S.; Engineer, E.; Borough Architect, B.A.; Architect, A.

BUILDING, PAINTING, ELECTRIC LIGHTING, HEATING, etc.

FEBRUARY 25.

Alnwick.—Houses.—10 houses in Green Bat, for U.D.C. G. K. Taylor, Town Surveyor.

Beddington and Wallington.—Houses.—4, on Butterd. estate, Wallington, for U.D.C. S. F. R. Carter, E. and S. Dep. £21 1s.

Billingham.—Shops.—5 combined dwelling-houses and shops on Clarence-rd. site, Haverton Hill-on-Tees, for U.D.C. Kitchling & Archibald, architects, 21, Albert-rd., Middlesbrough.

Craighouse.—Repairs.—Certain repairs and renewals of Craighouse Pier in the Island of Jura, for Argyll C.C. Formans & M'Cail, C.E., 160, Hope-st., Glasgow. Dep. £21 1s.

Devizes.—Houses.—24 non-parlour type on Jump Farm site, for T.C. A. W. Jakeway, B.S. Dep. £2 2s.

Dublin.—Additions.—Also alterations and renovations to 21, Fishamble-st., for C.B. City Electrical Engineer, Fleet-st.

Golberne.—Houses.—32, on Edge Green-lane housing site, for U.D.C. H. Eckersley, clerk. Dep. £2 2s.

Greenwich.—Repairs and Redecorative Works.—To certain flats in the Council's Housing Estate at Blackheath, for the Greenwich B.C. Borough Engineer, Town Hall, Greenwich-rd.

Halifax.—Bakery.—Model bakery at Square-rd., for Economic Stores (Hx.), Ltd. G. Reg. Oddy, Lic. R.I.B.A., architect and surveyor, Ward's End-chambers

Heckmondwike.—Fencing.—Of additional land at Secondary Schools, for West Riding E.C. Education Department, County Hall, Wakefield.

Hornsey.—Public Convenience.—Erection of, in Priory-rd., Hornsey, N.8, for the Hornsey B.C. W. H. Adams, B.E. and S., Town Hall, Highgate, N.6

Horsforth.—Houses.—22, scullery type, in Low-lane, for U.D.C. Jas. E. Aldersley, architect. Dep. £1 1s.

Luton.—Alterations.—To 11, Gordon-st., to provide office accommodation for Public Health Department, for T.C. J. W. Tomlinson, B.E. and S., 18, Upper George-st.

Middlesbrough.—Conversion.—Of Linthorpe police station and cottage into house and shop, also lock-up shop, for C.B. S. E. Burgess, M.Inst. C.E.

Newquay.—Pavilion.—Erection of and works in connection therewith, for the Newquay U.D.C. The Surveyor, Beach-rd., Newquay. Dep. £5 5s.

Northern Ireland.—Building.—4 Royal Ulster Constabulary Barracks at (a) Loughguile; (b) Stewartstown; (c) Dundrum; (d) Saintfield, for the Government. Secretary, Ministry of Finance, 15, Donegal-sq. West, Belfast. Dep. £1.

River Thames.—General works and repairs (including jobbing works).—Execution of, exclusive of works of a mechanical nature, to sewers, engine houses, buildings, bridges, subways, tunnels, etc., in connection with the River Thames, for the L.C.C. Chief Engineer, Spring-gardens, S.W.1. Dep. £3.

Rochdale.—Houses.—For (a) 72 on Rathbone-st. estate; (b) 66 on Dicken-green estate; and construction of roads and sewers on Rathbone-st. estate, for C.B. S. H. Morban, B.S Dep. £2 2s.

Stirling.—Houses.—52, at Drip-rd., for T.C. A. H. Goudie, B.E. Dep. £1.

Stretford.—Extension.—Existing infants' school, Stretford-rd., Old Trafford, for E.C. Percy Howard, A.R.I.B.A., 88, Mosley-st., Manchester. Dep. £2 2s.

Walsingham.—Cottages.—6 at Great Ryburgh, 6 at Langham and 6 at Barney, for R.D.C. W. H. Moffatt, E. and S. Dep. £1 1s. each.

Wellingborough.—Various Works.—Erection of a public convenience, store shed, main entrance gates, and entrance steps at Eastfield Park, for the Wellingborough U.D.C. R. Stevenson Henshaw, engineer and surveyor, Council Offices, "Swanspool," Wellingborough. Dep. £1 1s.

FEBRUARY 26.

Chelmsford.—Houses.—"A," 52 houses; "B," 48 houses; and "C," 26 houses, on Boarded Barns estate, together with erection of fences, laying of house drainage, and formation of paths appertaining thereto, for T.C. E. J. Miles, B.E. Dep. £2 2s.

Devon.—Building.—Chardstock, house for police constable; Colyton, Nunford Dairy, alterations, etc., and Plymstock, house for small holder, for C.C. County Architect, 97, Heavitree-rd., Exeter.

Devon.—Schools.—Council schools at Kentisbury, Kingsnympton, Langtree, North Devon, for E.C. County Architect, 97, Heavitree-rd., Exeter. Dep. £1 1s.

East Ashford.—Houses.—10 at Bockhanger-rd., Kenton, and 12 near Schools, Aldington, for R.D.C. Surveyor, 30, Albemarle-rd., Willesborough, Ashford.

Enniskillen.—School.—Secondary school for girls, for Fermanagh Regional E.C. J. J. Maquire, secretary, Courthouse, Enniskillen.

Galway.—Houses.—2 dwelling houses and 2 outoffices on lands of Castlebin East, Parish of Killaan, Co. Galway, for Irish Land Commission. J. T. Drennan, secretary, Upper Merrion-st., Dublin. Dep. £1.

Harpenden.—Houses.—30 on Westfield estate, for U.D.C. Wm. H. Johnson, S. Dep. £2 2s.

Ilkeston.—Houses.—32, and for construction of footpaths, drainage and fencing, for T.C. B.E. Dep. £2 2s.

Knottingley.—Houses.—34, on Womersley-rd., and 14 in Weeland-rd., for U.D.C. G. J. Laverick, S. Dep. £1 1s.

Leeds.—Flats.—On Hawksworth, York, and Selby rd. and Middleton housing estates, for T.C. W. T. Lancashire, City E.

Liverpool.—Extension.—To existing bowls pavilion, Wavertree Playground, for T.C. Land Steward and Surveyor.

Maldon.—Dwellings.—8 houses, near Old School, Dengie, for R.D.C. Wm. Almond, S., 6, Market-hill

Manchester.—Railings.—400 yds. of wrought-iron balcony railings at Crumpsall Institution, Crescent-rd., Crumpsall, for B.G. E. Hargreaves, Superintendent of Works, Union Offices, All Saints.

Plymouth.—Builder's Jobbing Work.—For C.B. R. J. Fittall, T.C.

Tipton.—Houses.—168 three-bedroom non-parlour type houses, for U.D.C. H. N. Woodard, E. and S. Dep. £2 2s.

Wenlock.—Houses.—3 pairs of parlour-type on Southfield-rd. building estate, for T.C. G. Riley & Son, architects, Wellington.

Willenhall.—Houses.—70 non-parlour type, on Albion-rd. site, for U.D.C. G. A. Waite, S. Dep. £2 2s.

Wood Green.—Pavilion.—Albert-rd. recreation ground, for U.D.C. C. H. Croxford, S. Dep. £1 1s.

FEBRUARY 27.

Devon.—Houses.—Roadmen's houses, as follows: Bishopstawton (Barnstaple), 1; Clyst Honiton (nr. Exeter), 2; Okehampton, 4; Princetown, 2; Staplehon (Holsworthy), 2; Stokenham (S. Devon), 2, and Walkhampton, 2, for C.C. County Architect, 97, Heavitree-rd., Exeter.

Dublin.—Improvements.—For (1) taking down and re-erecting Phœnix Monument, and (2) widening and improving certain roads in Phœnix Park, for Commissioners of Public Works. T. Cassedy, Secretary, Office of Public Works. Dep. £1.

Greenwich.—Houses.—Erection and completion of 79 of "A3" type on the Charlton Park Site, for the Greenwich B.C. Borough Engineer's Dept., Town Hall, Greenwich. Dep. £2 2s.

Irvinestown.—Barracks.—Standard type barrack at Irvinestown, County Fermanagh, for Government of Northern Ireland. Secretary, Ministry of Finance, 15, Donegall-sq. West, Belfast. Dep. £1.

Kiveton Park.—Conversions.—Into water-closets existing closet accommodation at 49 houses, for R.D.C. Sanitary Inspector.

Liverpool.—Railings.—4,224 lin. yds. wrought-iron railings, 5 ft. 6 in. high (including gates), for T.C. W. Moon, T.C.

Magherafalt (Ireland).—Alterations.—Also additions to Rainey Endowed school. Rev. J. Johnston, hon. secretary, The Manse. Dep. £2.

Newport.—Houses.—Erection of 172 on Maesglas Housing Estate, for the Newport C.B. Borough Architect, Town Hall, Newport, Mon. Dep. £2 2s.

North Dublin.—Building.—Additional room to two labourers' cottages at Cabra and Puckstown respectively, for R.D.C. Francis P. Russell, E., 16, Westmoreland-st., Dublin.

Portsmouth.—Secondary Schools.—Erection of (for boys and girls), North End, Portsmouth, for the City of Portsmouth Local Education Authority. Adrien J. Sharp, Authority's Architect, Edu. Dept., the Guildhall, Portsmouth. Dep. £5 5s.

Prestwich.—Repairs.—In connection with two houses known as Ebor Villas, situate at Rainsough, for U.D.C. S.

Stockport.—Telephone Exchange.—Erection of, at Marple, Stockport, for the Commissioners, H.M.O.W. Contracts Branch, King Charles-st., London, S.W.1. Dep. £1 1s.

Swansea.—Houses.—Erection of 103, at the Townhill estate, for the Swansea C. B. Ernest E. Morgan, A.R.I.B.A., Borough A., 3, Prospect-place, Swansea. Dep. £3 3s.

Watford. — Alterations and Additions. — To Leavesden Mental Hospital, Abbot's Langley, for the M.A.B. Office of the Board, Victoria Embankment, E.C.4. Dep. £5.

***Windsor.**—Elementary School.—Erection of, in Clewer, for the New Windsor E.C. J. A. Williams, Boro. Edu. Office, Victoria-st., Windsor.

FEBRUARY 28.

Bourne (Lincs).—Houses.—32 workmen's dwellings, on Hereward estate, for U.D.C. W. S. Green, S. Dep. £2 2s.

Canterbury.—Houses.—Erection of 134 (three types) at St. Martin's Hill, Canterbury, for the City Council of Canterbury. P. H. Warwick, City S. & E., Municipal Buildings, Dane John, Canterbury. Dep. £2 2s.

Carmarthen.—(*a*) Hot and cold water supply systems; (*b*) erection of a reservoir, with the necessary connecting mains, for the Committee of the Joint Counties Mental Hospital. J. Howard Morgan, F.R.I.B.A., architect, 24, King-st., Carmarthen. Dep. £3 3s.

Gateshead.—Telephone Exchange.—Erection of, at Low Fell, Gateshead, for the Commissioners, H.M.O.W. Contracts Branch, King Charles-st., London, S.W.1. Dep. £1 1s.

Glasgow.—Houses.—80 at Shettleston and Tollcross, for T.C. D. Stenhouse, T.C.

Glasgow.—School.—Temporary school at Gartocher-rd., Shettleston, for E.C. J. Clark, Director of Education.

Headingley.—Houses.—Pair of houses and shops, West-park. Luwee Harris & Son, architects, West Bar-chambers, Boar-lane, Leeds.

Kent.—School Buildings.—Erection of an additional classroom, etc., at the Bexley Welling Junior Mixed Council School, for the Kent E.C. E. Salter Davis, Director of Education, Springfield, Maidstone, Kent.

Leeds.—Library.—Branch library at Hunslet, for T.C. W. T. Lancashire, City E.

London.—Repairing and Painting.—The exterior and common staircases of the City and Queen's Mansions, North-rd., N.7 (90 flats), for the Metro. Boro. Council of Islington. Housing Manager. Municipal-buildings, Upper-st., N.1. Dep. £1.

Newton Abbot.—Installation.—Of electric lighting at the Institution, Newton Abbot, for B.G. Watson & Watson, Architects, 36, Torwood-st., Torquay. Dep. £2 2s.

Ramsgate.—Shelters.—Construction of 12 small and one large, on the Undercliff Drive, 4 large, on The Royal Parade, for the Ramsgate Corporation. A. Blasdale Clarke, T.C., Albion House, Ramsgate. Dep. £2 2s.

Rochdale.—Painting.—Internal painting work at (1) Marland Hospital, and (2) Wolstenholme Hall Sanatorium, for C.B. B.S.

Workington.—Shops.—Also general offices at corner of Oxford-st. and Vulcan's-lane, for Beehive Industrial Co-operative Society, Ltd. H. Oldfield, L.R.I.B.A., architect and surveyor.

MARCH 1.

Glastonbury.—Repairs.—At St. Saviour's Joint Isolation Hospital, Glastonbury, for Joint Committee. T. Jones, surveyor, Council Offices, Street, Somerset.

London.—Materials and Hire. Tenders for, from April 1 next for three, six and twelve months, for the Battersea B.C., Town Hall, Lavender-hill, S.W.11.

Teignmouth.—Pavilion.—Band concert pavilion in structural iron and glass, for U.D.C. F. W. Knight, S.

MARCH 2.

Ivybridge.—Houses.—10, on Mill Meadow site, for U.D.C. W. A. Vercoe, A.R.I.B.A., Sun-bldgs., Plymouth. Dep. £2.

Manchester.—Painting.—Exterior of Harpurhey baths, for T.C. City Architect. Dep. 10s. 6d.

Nottingham.—Warehouse.—Concrete warehouse and other works in connection therewith at Trent-lane Wharf, for T.C. W. J. Board, T.C., Guildhall.

Swallownest. — Building. — Additional exit at Council school (junior and infants' department), for West Riding E.C. A. Adcock, Divisonal Clerk, Education Offices, Godstone-rd., Rotherham.

MARCH 4.

***Southend-on-Sea.**—Public Conveniences and Reinforced Concrete Retaining Wall.—At the rear of the Esplanade Restaurant, Western Esplanade, and incidental works in connection thereto. Robt. H. Dyer, B.E., Municipal-bldgs., Southend-on-Sea. Dep. £2.

***Yeovil.**—Shop Fronts.—Construction of four, in Westfield-rd., Yeovil, for the B.C. Borough Surveyor, Yeovil.

MARCH 5.

***Wimbledon.**—Movable Flooring, etc.—Supply and fixing of about 760 super yards, with bearer joists, trestles, furring pieces, etc., over new swimming bath at Latimer Road, for the Wimbledon B.C. Boro. Engr. and Sur., Town Hall, Wimbledon.

MARCH 7.

***Croydon.**—Hospital Buildings, etc.—Various additions to Blocks A and B, new chimney shaft, etc., at the Sanatorium, Cheam, Surrey, for the Croydon and Districts Jt. Smallpox Hospital Bd. G. F. Carter, Sur. to the Board, Town Hall, Croydon. Dep. £3 3s.

MARCH 8.

***Southampton.**—Convenience.—Erection of, opposite the Central Library in London-rd., for the Southampton Corporation. Borough Engineer's Office, 33-35, French-st., Southampton. Dep. £2 2s.

***Woolwich.**—Terrazzo Flooring.—Laying of, at the Institution, Plumstead High-st., Plumstead, for the Guardians of the Woolwich Union. Whincop & Channer, 47, Thomas-st., Woolwich.

MARCH 11.

***Richmond, Surrey.**—Baths.—Additional dressing accommodation at the Public Baths, Parkshot, for the Richmond Borough Council. B.E. and S., Town Hall, Richmond. Dep. £1 1s.

MARCH 13.

***Surrey.**—Engineering Work.—Supply and installation of two steam chambers, hot closet and carving table, at the Holborn schools, London-rd., Mitcham, Surrey, for the Holborn Guardians. Chas. J. Cross, Clerk, Administrative Offices, 53, Clerkenwell-rd., E.C.1.

MARCH 14.

***Sheffield.**—Works and Plant.—Required in connection with the building and equipment of a new electricity generating station at Blackburn Meadows, Sheffield, for the Sheffield Electric Supply Committee. S. E. Fedden, General Manager and Engineer, Commercial-st., Sheffield. Dep. £3 3s. in respect of each specification.

***Welwyn Garden City.**—Houses.—Erection of 100 of working-class type, to be erected at Welwyn Garden City, for the U.D.C. Council's Architect,

H. C. Lander, F.R.I.B.A., 21, Bedford-row, London, W.C.2. Dep. £2 2s.

MARCH 15.

***Peterborough.**—Town Hall, Shops and Offices.—Erection in Narrow St., for the Peterborough Corporation. W. T. Mellows, T.C., Town Hall, Peterborough, Northants. Dep. £5 5s.

MARCH 16.

***Reading.**—Houses.—Erection of 109 on sites in the Borough for the Reading Housing and Town Planning Committee. Housing Architect, Municipal Bldgs., St. Laurence's Churchyard. Dep. £2 2s. to Boro. Accountant.

MARCH 18.

Carmarthen.—Reservoir, etc.—Also hot and cold water supply systems at Mental Hospital, for Joint Counties Mental Hospital Committee. W. J. Wallis-Jones, clerk to Visitors, 34, Quay-st. Dep. £3 3s.

Dewsbury.—Tiles.—5,800 super. yds. filter floor tiles at sewage disposal works, Mitchell Laithes, for C.B. H. Dearden, B.E.

***Hammersmith.**—Work.—And materials required in the erection of a Branch Library and Infant Welfare Centre at Western Avenue, Shepherd's Bush, for the Hammersmith B.C. R. Hampton Clucas, M.Inst.C.E., L.R.I.B.A., B. Engr. and S., Town Hall, Hammersmith, W.6. Dep. £2 2s.

March 19.

Carlingnose.—Repairs and Materials.—In Lowlands Engineer District of Scottish Command, for War Dept. Commander, Royal Engineers, Lowlands District, 29, Rutland-sq., Edinburgh.

MARCH 26.

***London.**—Painting, Pointing and Repairs.—At the Bethnal Green Hospital, Cambridge-rd., Bethnal Green, E.2, for the Bethnal Green Board of Guardians. C. Faulkner Jones, Clerk, Guardians' Offices, Bishop's-rd., Bethnal Green, E.2. Dep. £2.

MARCH 27.

Cairo.—Electric Lighting.—In town of Fashn, for Ministry of Interior, Section des Municipalites et Commissions Locales, Cairo. Department of Overseas Trade, 35, Old Queen-st., S.W.1. (Reference number B.X. 5037.)

NO DATE.

Co. Antrim.—Villas.—Pair of semi-detached villas and pair of semi-detached bungalows at Troopers-lane, Co. Antrim. Hugh Gault, architect, Coates-buildings, Castle-st., Belfast.

Banbury.—Houses.—6, for Corporation. B.S.

Barnsley.—Additions.—Also alterations to Bailey-st. Market, for Northern Butchers' Hide & Skin Co., Ltd. R. Goodworth, architect, 2, Eastgate.

Carnoustie.—Cottages.—Two-apartment cottages, for T.C. A. F. Anderson, B.S.

Cosham.—Alterations to 28, High-st., for Timothy Whites (1928), Ltd. Timothy Whites (1928), Ltd. (Construction Dept.), 30, Chandos-st., Portsmouth.

Doncaster.—Renovations.—To Liberal Club, St. James'-st., for Committee. W. H. Poppleton, secretary.

Douglas (I. of Man).—Alterations.—Also additions to High School for Girls, Douglas, for E.C. T. R. Lewin, clerk, Education Offices, Douglas. Dep. £10 10s.

Knaresborough.—Additions.—Also alterations to "Three Horse Shoes" Hotel, Boroughbridge, for Hepworth & Co., Ltd., S. Blenkhorn, architect, Westminster Bank-chambers, Knaresborough.

Linslade.—Extension.—To Council's offices, Leighton-rd., for U.D.C. H. A. Rolls, L.R.I.B.A., architect, 15, Bridge-st., Leighton Buzzard. Dep. 10s. 6d.

Portsmouth.—Houses.—20, in Mayfield-rd. H. Townsend, Brickyard, Kensington-rd.

Tranent.—Houses.—Additional 12 houses, 3 apartments, and 10 houses of 2 apartments, for T.C. W. Fraser, C. R. Maitland (Joint) Town Clerks.

***Tunbridge Wells.**—Alterations.—And additions to shop premises 11, Calverley Street, Tunbridge Wells, Timothy Whites (1928), Ltd. (Construction Dept.), 30, Chandos Street, Portsmouth.

MATERIALS, etc.

FEBRUARY 25.

Beddington and Wallington.—Road Materials.—For U.D.C. S. F. R. Carter, E. and S.

Billericay.—Road Materials.—For R.D.C. F. C. Ennals, S.

Blackpool.—Builders' Materials.—For C.B. W. Bateson, Borough Treasurer.

Colne.—Highway Materials.—For T.C. T. H. Hartley, B.E. and S.

Durham.—Highway Materials.—For C.C. W. J. Merrett, C.E. and S.

East Ellos.—Granite, etc.—For R.D.C. S. S. Mossop, Junr., clerk.

Epsom.—Road Materials, etc.—For R.D.C. T. E. Ware, S.

Godstone.—Road Materials, etc.—Geo. E. Crowter, M.Inst.M. & Cy.E., E. and S., Council Offices, Oxted, Surrey.

Guildford.—Highway Materials.—For T.C. J. W. Hipwood B.S.

Hartismere.—Broken Granite.—For R.D.C. H. Warnes, S., clerk.

Holbeach.—Highway Material.—For Council. S. S. Mossop, Junr., clerk, West End.

Kingsclere.—Granite, etc.—For R.D.C. A. E. Orledge, S.

London.—General Works and Repairs.—For the L.C.C. Chief Engineer, Old County Hall, Spring-gardens, S.W.1. Dep. £3.

Maltby.—Road Materials.—For U.D.C. M. R. Jones, E. and S.

Merthyr Tydfil.—Highway Materials.—For C.B. B.E.

Northamptonshire. — Tarmacadam. — Broken granite, etc., for C.C. E. A. Black, C.S., Northampton.

Ongar.—Tar, etc.—For R.D.C. H. C. Phillips, District Surveyor.

Penarth.—Road Materials.—For U.D.C. E. I. Evans, S.

South Stoneham.—Highway Materials.—For R.D.C. W. R. Cowell, S.

Southend-on-Sea.—Highways Materials. For C.B. R. H. Dyer, B.E.

Stoke-on-Trent.—Builders' Materials.—For T.C. City S.

Whitstable.—Road Materials.—For U.D.C. G. Dunkin, S.

FEBRUARY 26.

Belfast.—Builder's Materials, etc.—For C.B. R. Meyer, T.C.

Boston.—Highway Materials. For T.C. D. G. Cockrill, B.E. & S.

Chertsey.—Highway Materials.—For R.D.C. Capt. H. Beeney, S.

Cranbrook.—Highway Materials.—For R.D.C. E. Clarke, clerk.

Hadleigh.—Road Materials.—For U.D.C. S.

Ilfracombe.—Balustrading.—Pre-cast concrete balustrading, for U.D.C. F. B. Goodman, E. & S.

Leeds.—Concrete Slabs, etc.—For Parks Committee.—W. T. Lancashire, City E.

Margate.—Road Materials.—For T.C. E. A. Borg, B.E., 40, Grosvenor-place.

Plymouth.—Cement, etc.—For C.C. R. J. Fittall, T.C.

FEBRUARY 27.

Ealing.—Highway Materials.—For T.C. W. R. Hicks, B.S.

Erpingham.—Road Materials.—For R.D.C. R. Mann, Highway Surveyor, Cromer-rd., Holt.

Feltham.—Tar, etc.—For U.D.C. H. W. A. Carter, S.

Goole.—Granite, Macadam, Cement, etc.—J. H. Castle, E. and S., Council Offices.

Hollingbourne.—Road Materials.—For R.D.C. F. Miskin, clerk, 33, Earl-st., Maidstone.

Hollingbourne.—Tarmacadam, etc.—For R.D.C. F. Miskin, clerk, 33, Earl-st., Maidstone.

Lichfield.—Highway Materials.—For T.C. N. Auty, City S.

Liverpool.—Highway Materials. etc.—For T.C. City E.

Portland.—Broken Granite. For U.D.C. R. Davison, E. and S.

Richmond (Yorks.).—Road Materials.—For R.D.C. T. W. Beadle, S., North Cowton, Northallerton.

Skirlaugh.—Whinstone, etc.—For R.D.C. J. A. Andrews, S.

Sowerby.—Builders' Materials.—For U.D.C. A. W. Bissell, Engineer and Manager, Gasworks.

Twickenham.—Road Materials, etc.—For T.C. G. R. King, B.E. and S.

FEBRUARY 28.

Acton.—Road Materials.—For B.C. J. Morgan, T.C.

Alnwick.—Road Materials.—For U.D.C. G. K. Taylor, Town Surveyor.

Hampton.—Highway Materials, etc.—For U.D.C. S. H. Chambers, S.

Hampton Wick.—Granite, etc.—For U.D.C. H. Fawsett, clerk.

Hendon.—Highway Materials.—For R.D.C. H. W. Rackham, S.

London.—Stone.—3,000 ft. super of 2½ in. York paving stone, for Greenwich B.C. B.E.

Pateley Bridge.—Road Materials. For R.D.C. Wm. Storey, Highway Surveyor.

Portsmouth.—Road Materials.—For T.C. City E.

Sedgley.—Highway Materials.—For U.D.C. A. E. Dicks, S.

Smallburgh.—Road Materials.—D.S., W. L. Lewis, Stalham.

Smethwick.—Highway Materials. For C.B. R. Fletcher, B.E. & S.

Thakeham.—Road Materials, etc.—G. W. Curtis, S., Council Offices, Storrington, Pulborough.

Tring.—Highway Materials.—H. N. Hedges, S.

Upholland.—Road Materials.—For U.D.C. A. Hunt, clerk.

Uxbridge.—Road Materials.—For R.D.C. E. E. T. Bolton, E. & S.

Winchester.—Highway Materials.—For T.C. City E.

MARCH 1.

Abingdon.—Highway Materials.—For T.C. B.S.

Bredbury and Romiley.—Materials.—S., Council Offices, George-lane, Bredbury, near Stockport.

Egham.—Granite, etc.—For R. I. Weymouth, E. and S.

Magor and St. Mellons.—Road Materials.—For R.D.C. W. Dowler, clerk, Union Offices, Queen's Hill, Newport (Mon.).

Warwick.—Highway Materials.—For R.D.C. G. F. Taylor, S., 35, Oxford-rd., Leamington Spa.

Wellingborough.—Road Materials.—For U.D.C. E. and S.

MARCH 2.

Barnet.—Road Materials.—For U.D.C. E. and S.

Birmingham.—Cement.—Portland cement and stoneware pipes, for T.C. H. H. Humphries, City E. & S.

Broadstairs and St. Peter's.—Granite Chippings. For U.D.C. H. Hurd, S.

Cambridge.—Road Materials.—For T.C. B.E. and S.

Cardiff.—Limestone, etc.—For R.D.C. W. Farrow, S., 20, Park-place.

Crompton.—Road Materials.—For U.D.C. F. T. Jones, E. and S.

Cuckfield.—Road Materials.—For R.D.C. H. L. Richardson, S.

Droylsden.—Highway Materials.—For U.D.C. G. Smith, clerk.

East Barnet Valley.—Gravel, etc.—For U.D.C. C. M. Barnes, E. & S.

East Ham.—Highway Materials.—For Corporation. C. E. Wilson, T.C.

Ely.—Highway Materials.—For R.D.C. E. Spencer, S.

Essex.—Stone, Sand, etc.—For C.C. Wm. H. Morgan, C.S., Chelmsford.

Leeds.—Lime, etc.—For T.C. S. Thornley, Superintendent, Cleansing Dept., Dock-st.

Wetherby.—Highway Materials.—For R.D.C. A. Suttel, S.

ENGINEERING, IRON AND STEEL

FEBRUARY 25.

Langholm.—Restoration.—Of Milntown girder bridge over River Ewes, for Joint Committee of Eskdale and Liddesdale Agricultural and Pastoral Society and Langholm Rugby Football Club. J. C. Boyd, M.Inst.C.E., 18, Bank-st., Carlisle.

Littlehampton.—Reservoir.—Reinforced concrete reservoir, together with sundry pipe connections, meters, and other ancillary works, for U.D.C. Howard Humphreys & Sons, consulting engineers, 28, Victoria-st., Westminster. Dep. £3 3s.

FEBRUARY 26.

Birmingham.—Reconstruction.—In mass concrete and steelwork of Cartland-rd. bridge over River Rea, together with roadworks in approaches and reconstruction of foul and surface water sewers, for T.C. H. H. Humphries, City E. and S.

Dublin.—Slipway.—Reinforced concrete slipway at Bullock Harbour, for Dublin Port and Docks Board. Engineer, East Wall, Dublin. Dep. £5.

Hemel Hempsted.—Bridge.—Demolition of old bridge and construction of new bridge over Grand Junction Canal, in Fishery-rd., for T.C. A. Murray-Smith, B.E. Dep. £5 5s.

Norfolk.—Improvement.—Supply, obtaining, hauling, tipping into place, ramming, sloping off batters and turfing, material for raised approaches to carry road over proposed new bridge at Roudham Level Crossing, for C.C. S. H. Warren, C.S., 9, Queen-st., Norwich.

Tiverton.—Sewage Disposal Works.—At Sampford Peverell, for R.D.C. Dixon & Bamsey, architects, St. Peter-st.

FEBRUARY 27.

Latvia.—Bridge.—Steel bridge across the River Daugava (Dvina) at Krustpils, for Latvian Railway Administration. Department of Overseas Trade, 35, Old Queen-st., S.W.1. (Ref. A.X. 7461.)

FEBRUARY 28.

Antwerp.—Bridges.—2 swing bridges, for T.C. Department of Overseas Trade, 35, Old Queen-st., S.W.1. (Ref. A.X. 7382.)

Johannesburg.—Steelwork.—Structural steelwork for the new coaling plant, Queenstown, for South African Railways and Harbours. Department of Overseas Trade, 35, Old Queen-st., S.W.1. (Ref. A.X. 7378.)

Siam.—Superstructures.—Steel bridge superstructures, for Siamese State Railway. Department of Overseas Trade, 35, Old Queen-st., S.W.1. (Ref. A.X. 7092.)

Swadlincote.—Reservoir.—Service reservoir of about 3 million gallons capacity and for the construction of about 1,600 yds. of 15-in. pumping main and 1,400 yds. of 14-in. supply main, etc., John Taylor & Sons, Caxton House, Westminster, S.W.1. Dep. £5.

MARCH 1.

Dumfries (Thornhill). — Drainage. — Supplying, laying and jointing of about 3,200 lin. yds. of 4-in., 6-in. and 9-in. diameter pipe sewers and construction of sewage disposal works, comprising small pumping station, tanks, and filters, and relative accessory works, at Monlaive, for D.C. of C.C. W. C. Easton, chartered civil engineer, 183, West George-st., Glasgow, C.2. Dep. £3 3s.

MARCH 2.

Glasgow.—Bridge.—Steel plate-web girder bridge of three spans, including abutments, wingwalls and steel trough decking, over L. & N.E. Railway (Glasgow and Airdrie line) at Barrachnie, for T.C. D. A. Donald, engineer, 271, Alexandra-parade, Glasgow.

Kington.—Footbridge.—Across Hindwell brook, Knill, for R.D.C. F. Exton, S.

Southam.—Bridge.—Over the River Stowe at Southam, on Two Gates-Coventry-Banbury main road, for Warwickshire C.C. D. H. Brown, C.S., 8, Northgate-st., Warwick.

ROAD, SEWERAGE, AND WATER WORKS

FEBRUARY 25.

Beckenham.—Road.—Reinforced concrete road construction, for widening of Croydon-rd. from 40 ft. to 60 ft., for a length of about 800 yds., for U.D.C. H. Storr Best, S. Dep. £5.

Beddington and Wallington.—Making-up.—Of Link-lane, Wallington, for U.D.C. S. F. R. Carter, E. & S. Dep. £1 1s.

Blean.—Road.—Road improvement works on Fordwich-rd., Sturry, near Canterbury, including providing and laying 480 yds. run of concrete kerb, widening of road, construction of footpaths and resurfacing 2,445 yds. super. with grouted granite and other incidental work. for R.D.C. F. A. Ward, S. and E.

London.—Mains.—2,770 lin. yds. of 18 in. dia. main between Finchley-rd. and the North Circular-rd.; 1,875 lin. yds. of 18 in. dia. main between Brent-st. and Holders Hill-rd.; 1,520 lin. yds. of 24 in. dia. main between the Vale, Hendon, and the North Circular-rd.; and 342 lin. yds. of 24 in. dia. and 16 in. dia. main in Westbere-rd. and Mill-lane, N.W., for M.W.B. Chief Engineer, 173, Rosebery-av., E.C.1. Dep. £10.

Mitcham.—Street Works.—In concrete, for U.D.C. Surveyor's Office, Broadway House, Lower Mitcham.

Northampton.—Drainage.—2,920 yds. of soil sewers, varying from 33-in. diameter to 12-in. diameter, and approximately 2,560 yds. of surface water sewers, varying from 48-in. diameter to 18-in. diameter, all generally in concrete tubes, together with all necessary manholes, ventilating columns, etc., at Kingsthorpe, for C.B. A. Fidler, B.E. Dep. £5.

Teddington.—Alterations.—1,250 yds. lin. of 33-in cast-iron pipes for sewage disposal works, for U.D.C. E. Bostock, S. Dep. £2 2s.

FEBRUARY 26.

Chertsey.—Drainage.—Supply and laying of 24 in., 21 in. and 12 in. concrete tubes, and 9 in. stoneware pipe sewers, together with manholes, catchpits, and gullies, reconditioning water-courses and other appurtenant works, in Pyrford, for R.D.C. Capt. H. Beeney, Surveyor.

Doncaster.—Sewer.—936 yds. of 15-in. sewer across Low Pastures from Pumping Station of Doncaster Corporation to Temporary Pumping Station on Cantley Sewers, for R.D.C. W. R Crabtree, S., Nether Hall.

Mitcham.—Sewer.—Taking up of existing 6 in. surface water sewer in Mitcham Park and relaying approximately 820 feet in 12-in. and 620 feet in 9-in. pipes, including picking up of all connections, for U.D.C. S.

Oldham.—Sewers.—Roads and sewers on Limeside Housing estate, for C.B. B.E. and S. Dep. £2 2s.

FEBRUARY 27.

Edinburgh.—Pipes.—Cast iron or steel pipes for supply of 2,000 yds. of piping, 33 in. internal diameter, for T.C. J. & A. Leslie & Reid, engineers, 29, Waterloo-place.

Hendon.—Widening.—Also reconstruction of High-rd., Harrow Weald, approximately 1,000 yds. in length, including surface water drainage, kerbing, asphalte on concrete carriageway, and paved foot-paths, for U.D.C. W. Rackham, E. and S. Dep. £5 5s.

Hendon.—Kerbing.—Also footpath paving works at High-st., Pinner, approximately 210 yds. in length, for U.D.C. W. Rackham, E. and S. Dep. £1 1s.

Hull.—Sewer.—4 ft. 6 in. x 3 ft. 0 in. concrete sewer with appurtenant works in Spring Bank West from Walton-st. to Willerby-rd., length about 1,450 yds., for T.C. T. Thomas, City E.

Larne.—Reconstruction.—Of roads, for U.D.C. J. M. O'Brien, clerk. Dep. £1.

Merton and Morden.—Making-up.—Of (a) Keswick-av. (approximate length 258 yds.) and (b) Erridge-rd. (part of) (approximate length 167 yds.), for U.D.C. G. Jerram, E. and S. Dep. £1 each.

Newton-in-Makerfield.—Asphalt.—Surfacing of Market-ground with 1½-in. asphalt, for U.D.C. R. Latham, E.

Sunderland.—Paving.—Draining, paving, channelling, kerbing, macadamising, etc., of The Cedars, for C.B. B.S. Dep. £2 2s.

Tunbridge Wells.—Making-up.—Of Parsonage-rd. (remaining part) and Holmwood-rd., for T.C. W. H. Maxwell, Borough and Water Engineer.

FEBRUARY 28.

Ealing.—Sewer.—New soil sewer from Northern Works to Horsenden-lane, and pumping station at Northern Works, for T.C. W. R. Hicks, B.E. and S. Dep. £2 2s.

Greenwich.—Sewers.—Tenders for the construction of sewer in Shooter's Hill-rd., cast-iron and stoneware pipes, for the Greenwich B.C. Borough Engineer's Department, Town Hall, Greenwich Dep. £2 2s.

Hornsey.—Sewer.—Levelling, paving, metalling, kerbing, channelling and making good of following roads:—Passageway at rear of 1 to 6, Victoria-parade, Muswell Hill (about 129 ft. lin.); passageway at rear of 1 to 13, The Broadway, Muswell Hill (about 153 ft. lin.); passageway at rear of 1 to 19, The Exchange, Muswell Hill (about 140 ft. lin.), for T.C. W. H. Adams, B.E. and S.

Meltham.—Asphalting.—Also tarspraying school yards, for Managers of Meltham C. of E. School Canon Barter, Meltham Vicarage.

MARCH 1.

London. — Drains. — Constructing surface-water drains and gullies and paving carriageway of Princes-rd., Southfield, and Crescent-lane, Clapham, for Wandsworth B.C. E. J. Elford, B.E., 215, Balham High-rd., S.W.17. Dep. £1 1s.

MARCH 2.

Haverfordwest. — Reconstruction. — Of carriageways in Nun-st., St. David's, for R.D.C. J. A. Rice, District Surveyor's Office, Letterston, Pem

Romford.—Relaying.—Taking-up of existing 9-in. and 12-in. diameter sewers in North-st. and laying approximately 380 yds. of 18-in. diameter stoneware pipe sewer, together with necessary manholes and incidental works, in North-st., for U.D.C. F. G. Beaumont, E. and S. Dep. £2 2s.

Shaw.—Sewer.—Laying approximately 250 lin. yds. of 9-in. diameter earthenware pipe sewer, together with construction of necessary manholes, etc., in Halifax-rd., for R.D.C. F. T. Jones, E. and S.

Yeovil.—Sewer.—Supplying and laying of 85 lin. yds. of 24-in. and 27-in. concrete tubes, 150 lin. yds. of 12-in. stoneware pipe sewers, with necessary manholes, and widening and deepening 130 lin. yds. of stream, for T.C. B.S.

MARCH 5.

Godstone.—Sewers.—Construction of about 600 yds. of 9-in. diameter stoneware pipe sewers, together with manholes, ventilating shaft and other appurtenant works, for Godstone R.D.C. J. Taylor & Sons, engineers, Caxton House, Westminster, S.W.1. Dep. £5.

MARCH 6.

Blackrock.—Main.—Laying down of about 1,000 yds. of 6-in. water main at Monkstown, for U.D.C. S.

Taunton.—Surface Dressing.—Of 300,000 sq. yds. of roads, for R.D.C. S. Orchard, S.

Wembley.—Tarpainting.—Of approximately 130,000 yds. super. of roads, for U.D.C. C. R. W. Chapman, E. and S.

MARCH 7.

London.—Paving.—Supply and laying of creosoted deal paving blocks and asphalte macadam, for Lambeth B.C. O. Cattlin, B.E.

MARCH 9.

Caherciveen.—Sewerage.—Construction of about 2,340 yds. of 9-in. diameter pipe sewers, about 1,220 yds. of 12-in. diameter pipe sewers, and about 150 yds. of 15-in. diameter pipe sewers of stoneware, or, alternatively, of concrete, of a 12-in diameter cast-iron outfall sewer, of manholes, of ventilating columns, of storm overflows, and of connections to existing sewers and house connections, etc., for Kerry Board of Health. E. M. Murphy, consulting engineer, 27, Molesworth-st., Dublin. Dep. £5 5s.

Auction Sales, Tenders, etc.

MARCH 6.

London.—Daniel Smith Oakley & Garrard will sell, by order of the Westminster City Council, 139, Wardour-st and 17, Duck-lane, W.1, for letting by auction at the London Auction Mart, 155, Queen Victoria-st., E.C.4. Auctioneers, 4-5, Charles-st., St. James's-square, S.W.1.

London.—Daniel Smith Oakley & Garrard will offer sites 213-223 (odd), 225-235 (odd), Lewisham High-rd., on the Whidborne Estate, Deptford, S.E., for letting by auction at the London Auction Mart, 155, Queen Victoria-st., E.C.4 Auctioneers, 4-5, Charles-st., St. James's-square, S.W.1.

MARCH 7.

★**London.**—Joseph Hibbard & Sons will sel upon the premises (by order of Messrs. Bernard Brock, Ltd., who are closing down business), Tower Pianoforte Factory, Northwold-rd., Clapton, E.5, plant and stock of pianoforte manufacturers, office furniture, etc. Auctioneers, 15, Newington Green, Islington, N.16.

MARCH 12.

★**Kentish Town, N.W.5.**—Joseph Hibbard & Sons will sell, by order of the Imperial Organ and Piano Co., Ltd., who are removing to Camden Town, upon the premises, at Perren-street, Rylandroad, Saw Mill Plant and Machinery, Window Frames and quantity of Surplus Timber. Auctioneers, 15, Newington Green, Islington, N.16.

Public Appointments

FEBRUARY 25.

London.—Town Planning Inspector required by the Minister of Health. Director of Establishments, Ministry of Health, Whitehall, S.W.

FEBRUARY 27.

★**Windsor.**—Clerk of Works required by the New Windsor E.C. J. A. Williams, Secretary for Edu. B. Edu. Office, Victoria-st., Windsor.

FEBRUARY 28.

London.—Abstracting and Billing Assistant (temporary) required in the Architect's Department, L.C.C. The Architect, The County Hall, Westminster Bridge, S.E.1.

Worcester.—Diocesan Surveyor for Diocese of Worcester, commencing July 1. Dilapidations Board, Church House, Worcester.

MARCH 2.

London.—Assistant in the Building Dept., who will act as Headmaster of the Building Trades school; also an Assistant to teach Architectural Design and Architectural History. W. M. Macbeth, Clerk to the Governors, Northern Polytechnic, Holloway, N.7.

MARCH 4.

★**Bradford.**—Assistant Lecturer.—Required in the Dept. of Civil Engineering, Architecture and Building at the Technical College by the Bradford C.C. Dir. of Edn., Town Hall, Bradford.

MARCH 7.

Greenwich.—Male Supernumerary Clerk, in the Works Dept., required by the Metro. Boro. Council of Greenwich. Frederick J. Simpson, T.C., Town Hall, Greenwich, S.E.10.

MARCH 9.

Essex.—Quantity Surveyor required on the temporary staff of the County Architect's Dept., by the Essex C.C. Jno. Stuart, F.R.I.B.A., C.A., Old Court, Springfield, Chelmsford.

APRIL 3, 4, 5.

London.—London Building Act, 1894.—District Surveyors at a London Centre, an examination of persons presenting themselves for the purpose of being examined for duties of District Surveyors. Clerk of the Council, the County Hall, Westminster Bridge, S.E.1.

NO DATE.

★**London.**—Foreman of Works required under architect's supervision. Town Clerk, Finsbury Town Hall, Rosebery-av., E.C.1.

Nigeria.—M/1338, Waterworks Foreman, for the Public Works Dept., for two tours of 12 to 18 months.—M/1319, Uganda, Foreman, Building.—M/1320, Two Overseers required in the Public Works Dept. for tours of 20-30 months' service. Apply at once, Crown Agents for the Colonies, 4, Millbank, London, S.W.1, quoting reference number against the apointment for which application is made.

PROPOSED NEW BUILDINGS AND OTHER WORKS*

In these lists care is taken to ensure the accuracy of the information given, but it may occasionally happen that, owing to building owners taking the responsibility of commencing work before plans are finally approved by the local authorities, "proposed" works at the time of publication have been actually commenced. Abbreviations: T.C. for Town Council; U.D.C. for Urban District Council; R.D.C. for Rural District Council; E.C. for Education Committee; B.G. for Board of Guardians; B.C. for Borough Council; P.C. for Parish Council; M.H. for Ministry of Health; M.T. for Ministry of Transport; C.B. for County Borough; B. of E. for Board of Education; M.A.B. for Metropolitan Asylums Board; and M.W.B. for Metropolitan Water Board; Borough Surveyor, B.S.; Borough Engineer, B.E.; District Surveyor, D.S.; Clerk, C.; Town Clerk, T.C.; County Engineer, C.E.; County Surveyor, C.S.; County Architect, C.A.; Surveyor, S.; Engineer, E.; Borough Architect, B.A.; Architect, A.

Aberdeen.—Hospital.—Plans are being prepared by W. A. Pite, Son & Fairweather, architects, of 12, Carteret-st., Westminster, S.W.1, in consultation with Mr. J. B. Nichol, of Messrs. Kelly & Nichol, architects, of Aberdeen, for new infirmary proposed by Aberdeen Royal Infirmary.

Aldershot.—Steel-framed football stand is to be erected in Recreation Ground, High-st., Aldershot, by direct labour, for T.C.

Amersham.—U.D.C. decided to issue instructions for tenders for 68 houses, on amended scheme prepared by F. Hall Jane, F.R.I.B.A., 11, Havengreen, Ealing, W.5. Architects, Burgess, Holden & Watson, Beaconsfield.

Amersham.—Extensions.—B.G. decided to extend accommodation institution. Plans by A. Saxon Snell & Phillips, of 9, Bentinck-st., Manchester-sq., W.1.

Barnsley.—T.C. approved scheme to erect 52 three-room houses at Burton Grange, by direct labour, at £15,405.

Becontree.—L.C.C. recommend that, subject to consent of M.H., land in Goresbrook-rd., be let on building lease to B. C. Ulyett, for erection of shop premises with living accommodation over.

Bexhill.—Mrs. Margaretta Hill, of Marina-court-av., left £1,000 towards fund for building and endowing a hospital at Bexhill.

Biggleswade.—R.D.C. decided to erect 12 further houses in Langford village.

Blaby.—R.D.C. decided to build 14 more Council houses in Federation-rd., Enderby.

Bridgwater.—In connection with the Council's scheme to erect a further 98 houses, Samson & Colthurst been appointed architects.

Bridlington.—Fairbank & Son, M.I.C.E., Stonegate, York, are to prepare plans for building sea wall to take the place of existing cobble landing for Corporation.

Burton.—Town Planning Committee received sanction from Deputy Director of Civil Aviation of site on Forest-rd., for aerodrome.

Bury.—B.E. is to prepare scheme for bridge over railway between Manchester-rd. and Knowsley-st.—Surveyor been asked to prepare plans for 100 houses on Deal-st. side, and alternately for 100 flats on Lower Chesham site.

Caerleon.—D.C. decided to borrow £6,000 to acquire a site of about 5 acres for building scheme.

Cambridge.—T.C. passed plans for pavilion, Sedley Taylor-rd., Cambridgeshire C.C., per H. H. Dunn, County Architect, Hobson-st.

Caversham.—Governors of the Queen Anne's School at Caversham have decided to carry out a scheme for buildings at school, including hall. Plans by G. F. Turner, 7, Broad-st., W.C.2.

Cheadle.—Cheshire C.C. are to erect school in Long-lane. Plans by Anstead Browne, F.R.I.B.A., Newgate, Chester.

Chelmsford.—At a cost of £3,000 choir vestry, committee and muniment rooms will be built as memorial to Canon Lake, sub-dean of Cathedral.

Conisborough.—U.D.C. decided to make application for sanction to borrow £10,000 for erection by direct labour of 22 houses on Daylands site.

Coulsdon and Purley.—U.D.C. are to make application to M.H. for sanction to loan of £805 for erection of pavilion in Coulsdon Memorial Ground.

Coventry.—Claude Redgrave, A.R.I.B.A., 33a, Earl-st., is to prepare plans for Wesleyan Chapel, estimated to cost about £35,000.

Cranwell.—Ministry of Air anticipate placing of contract shortly for main buildings which will comprise proposed new Royal Air Force Cadet Training College.

Dorchester.—R.D.C. are to erect 8 houses on site at Winterbourne St. Martin and 4 houses on site, opposite Yeoman Inn at Grimstone. A. Pope, architect, been instructed to prepare necessary plans and specifications, and invite tenders.

Driffield.—Executive Committee of Cottage Hospital decided to erect a new hospital in town.

Freebridge.—R.D.C. received plans and specifications of new houses at Harpley, prepared by Surveyor, A. W. Plowright, and authorised tenders.

Garstang.—Catterall & Swarbrick's Brewery, Ltd., brewers, Talbot-rd., Blackpool, proposing to erect hotel at Cathouses, near Nateby. Architect, Halstead Best, F.R.I.B.A., 8, Clifton-st.

* See also our List of Contracts, Competitions, etc.

Golberne.—E.C. recommended site at Turton-st. and Mullingford Brook for new elementary school.

Harrogate.—Wells and Baths Committee are to prepare comprehensive scheme for development of Royal Baths and Parliament-st. property.—A proposal by Housing Committee to prepare scheme for 50 two-bedroom houses.

Haslingden.—Plans been approved for pump house at Institution for B.G. Architect, W. Hemingway.

Hayes.—The Merchant Taylors' School propose to build pavilion at sports ground. Architect, F. J. Wills, F.R.I.B.A., 62, Oxford-st., W.1.

Hove.—T.C. ordered preliminaries with view to erection of another 50 houses on Knoll estate.

Hereford.—Plans for proposed extensions and improvements to Grammar School and Kerr Grammar School are being prepared. Architect, R. B. Brierley, L.R.I.B.A., High-lane.

Hull.—Hull United Methodist Church Circuit appointed P. R. Fincher, F.R.I.B.A., of Bank-chambers, Broadway-parade, Leigh-on-Sea, as architect for building of proposed church and Sunday schools.

Ightham (Kent).—House.—Plans been prepared for house, the cost of which will exceed some £10,000. Architect, J. N. Randall Vining, F.R.I.B.A., Rolls-chambers, 80, Chancery-lane, W.C.2.

Ilkeston.—T.C. passed plans for 4 pairs cottages, Heanor-rd., and 3 pairs houses, Longfield-lane, for D. Roberts & Son.

Keighley.—Application is being made by T.C. to borrow £16,200 for public abattoir in Hard Ings-lane.

Kempton.—M.W.B. approved supplemental estimate of £4,000 in connection wih construction of first instalment of pumping station buildings at Kempton.

Kendal.—Vicar and Churchwardens of Kendal Parish Church about to erect vestries situate between and adjoining both the Church and parish hall, to the designs of J. F. Curwen & Son, chartered architects.

Kew.—A proposal is being considered to attach footbridge to railway bridge over Thames at Kew.

Leicestershire.—C.C. decided to spend £106,541 on central sanatorium and isolation hospital.

Lincoln.—B.G. considered plans of alterations and extensions to institution. Cost of proposed alterations, etc., will be approximately £3,000.

Letchworth.—Herts C.C. agreed that subject to approval by B. of E. 6 cottages 8 to 18, Pond-lane, be purchased at £200, including, for purpose of improving school premises.

Liverpool.—Church and hall is to be erected at Moreton for Liverpool Baptist Union. Plans by Mr. Bladon, architect, of 12, Preeson's-row.

Liversedge.—Funds are being raised for the erection of a new Sunday School by the members of the Littletown P.M. Church.

London.—Estimate of £480 for interior painting of old meter repair shop at the New River yard, been approved by M.W.B.

London (Hackney).—L.C.C. recommend £360 in respect of acquisition of site and erection thereon and equipment of an ambulance station.

London (Long Grove).—L.C.C. recommend that, subject to approval of plans by M.H., estimate of £24,550, in respect of provision and equipment of a nurses' home at Long Grove mental hospital, be approved.

London (Nunhead).—M.W.B. sanctioned repairs to block of buildings at Nunhead works consisting of telephone office, superintendent's office, foreman's office, messroom, stores, etc., and provision of new rain water pipes, at £150.

London (Stoke Newington).—B.C. passed plans for garage building at rear of 32, Heathland-rd., for T. W. Rhodes on behalf of Mr. Mehlman.

Manchester.—G. Westcott, 13, Bridge-st., Manchester, and H. Boddington, A.R.I.B.A., 26, Old Burlington-st., W.1, been appointed joint architects to prepare plans for women's and children's hospital on site off Cheetham Hill-rd., for the Board of Management of the Manchester Northern Hospital.—Union Bank of Manchester, Ltd., York-st., acquired premises known as Grand Cafe, Oxford-rd., which they propose to adapt for purposes of a branch bank. Plans by J. Sunlight, architect, 4, St. Ann's-sq.

Middleton.—Leeds City Council instructed City Engineer to prepare and submit plans of cottage flats to be erected on Middleton estate—76 of A3 type.—City Engineer is also to proceed with the construction of roads in connection with cottage flats.

Monaghan.—U.D.C. received site at Cornacassa, near Monaghan town, for erection of 8 houses.

Newcastle.—U.D.C. sanctioned plastering of Spa Theatre ceiling at £315.

Newcastle-on-Tyne.—Alterations to business premises in Clayton-st. Plans by M. K. Glass, F.R.I.B.A., 20, Saville-row.

Newcastle-upon-Tyne.—E.C. is to proceed with erection of temporary elementary school at High Heaton. Estimated cost is about £2,500.

Newport (Mon.). — Harbour Commissioners adopted resolution passed by works committee recommending that design submitted by G. Mouchel & Partners, of Westminster, for improvement of landing stage at £2,800.

Normanton.—U.D.C. making application for loan of £2,500 for provision of Smallpox Hospital at Glasshoughton.

North Harrow.—Imperial Property Investment Co., Ltd., 28, Basinghall-st., E.C.2, acquired land in Station-rd., where it is proposed to build block of 15 shops and flats.

Oakham.—U.D.C. decided to advertise for tenders for additional Council houses on Cold Overton-rd. estate.

Oldham.—Funds being raised by parishioners of Parish Church to meet cost of proposed alterations and improvements to schools to meet the requirements of B. of E. Plans by Fred Thorpe, F.R.I.B.A., Union Bank-chambers, Church-lane, Oldham.

Portsmouth.—T.C. passed plans:—A. J. Chase, 17 houses, Compton-rd., off Madeira-rd.; Fox & Smith, 17 houses, Romsey-av., off Langstone-rd.; G. Moucher & Sons, 18 houses, Sunningdale-rd.; C. C. Coles, 31 houses, Gatcombe-av.; C. W. Stigant, 10 houses, St. Colman's-av., Cosham; H. Townsend, 20 houses, Mayfield-rd.; P. T. Price, 8 houses, St. Matthew's-rd., Cosham.

Preston.—Scheme for new operating theatre at Infirmary for B.G. been approved. Architect is Fred Howorth, F.R.I.B.A., 32, Lune-st. Estimated cost is about £2,000.

Reading.—T.C. approved erection of 111 houses in Stone-st., Ardler-rd. and Marsack-st., provided sites can be purchased at prices satisfactory. B.S. is to negotiate for acquisition of sites, and in due course tenders be invited.

Rye.—R.D.C. are to build 6 more houses at Brede.

Rossington (Yorks).—Funds are being raised by congregation of St. Luke's for church hall. No architect has yet been engaged.

Rotherham.—B. of E. have approved plans for Central and Infants' Schools at Cranworth-rd., at £53,540.—Committee considered a scheme submitted by B.E. for 70 houses on land at South-st.

St. Albans.—Directors of the Ballington Hosiery Co., Ltd., 4, Bucklersbury, E.C.4, are to enlarge St. Albans Hosiery Mills, in Hatfield-rd.

Salisbury.—City Council passed plans: Six houses, Wordsworth-rd., for George Way; 6 houses, Australian-av., for G. Way.

Sheffield.—Housing Committee recommend that negotiations be entered into with owners of land in South-st., Kimberworth, for erection of approximately 70 houses.

Sheffield.—Parishioners of St. Oswald's Church, Millhouses, raising funds for Parochial Hall, estimated to cost £6,000. Plans by J. R. Wigfall, F.R.I.B.A., architect, 14, Parade-chambers.

Sheffield.—T.C. passed plans:—Presbyterv, Melrose-rd., for Rev. White; 12 houses, Norfolk-rd., for Governors, Shrewsbury Hospital; 6 houses and garages, Endcliffe Glen-rd., for Reeves Charlesworth, Ltd.

Southend-on-Sea.—C.B. passed plans:—10 houses and four garages, Park-rd., Leigh, W. A. Walker; 5 bungalows, Huntingdon-rd., Purkiss Bros.

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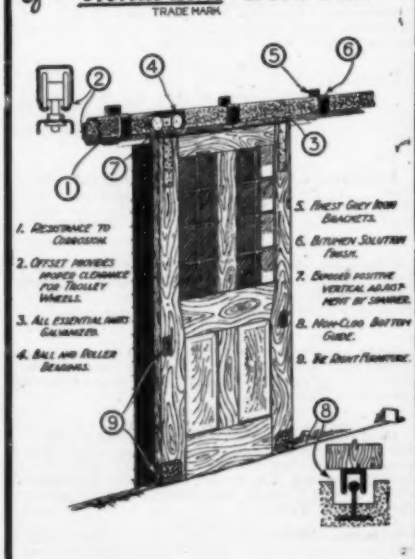
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South Mimms.—R.D.C. decided to prepare scheme for erection of 40 parlour-type and 20 non-parlour type houses.

Southport.—G. Tonge & Felix Holt, architects, Hill-st., Southport, and Dale-st., Liverpool, are architects for bank premises at London-st. and Lord-st., for Lloyds Bank, Ltd., Gracechurch-st., E.C.3.

Stechford.—Rev. Fr. P. F. Gateley, and members of Church of Corpus Christi raising funds for edifice on site of existing church.

Stockport.—B.S. is to prepare plans for 114 houses on Criterion-st. housing site.—B.S. also submitted to Housing Committee resolution of General Purposes Committee offering land in George-st. West for housing purposes. It was resolved that offer be accepted, and B.S. be requested to prepare lay-out plan for houses on the site.

Spenborough.—U.D.C. propose to go forward with housing programme comprising an additional 136 houses at £13,065. Tenders are to be invited.

Stanley.—U.D.C. propose £6,000 drainage in Abbeyford-rd.

Stretford.—U.D.C. are to make application to M.H. for sanction to borrowing £12,500 for housing purposes.—Plans passed:—33 houses, Northleigh-rd., for W. R. Rochell; 6 houses, Hillingdon-rd., for W. Barton; 12 houses, Gorse-av., for G. H. Brown & Son.

Sunbury.—D.C. approved plans: From Mr. Schofield, for 24 garages and new lavatories at Messrs. Collis' factory in Hanworth-rd.; Collis & Son, for new office accommodation and lavatories at their works in Hanworth-rd.

Sunderland.—Extensions are to be made to garage at Holmeside. Plans by William & T. R. Milburn, architects, Fawcett-st.

Sutton Coldfield.—Plans been approved for church and institute at Boldmere for Church of St. Nicholas.

Swansea.—Borough Architect, Borough Water Engineer, and Borough Estate Agent reported in regard to erection at Townhill of water tower and other works at £4,000.—Plans passed: 6 houses, Gorse-rd., Cockett, for Syd. Davies; 5 houses, Pennard-st., for Weaver Bros.; 6 houses, Manor-rd., for I. J. Aubrey.

Taunton.—Sugar Beet and Crop Dryers, Ltd., Lincoln House, High Holborn, W.C.2, are to build drying and pulping factory. The consulting engineer is Col. J. Bowden, M.I.C.E.

Tiverton.—R.D.C. are to build houses as follows:—Cullompton, 24; Halberton, 8; Loxbeare, 2; Washfield, 2; Sampford Peverell, 7; Uplowman, 4; and Uffculme, 14.

Totnes.—T.C. are to build 32 houses.

Wakefield.—City Council instructed housing architect to prepare a scheme for adaptation of Snapetorpe Hall for purpose of branch library and child welfare centre.

Wakefield.—Plans for new elementry school on Yorkshire-buildings, have prepared plans for £25,000 extensions to the Clayton Hospital

Wakefield.—Plans for new elementary schools on the Snapethorpe estate, for Corporation, been approved. Estimated cost is £40,060.—Snapethorpe Hall is to be converted into a branch library and child welfare centre.

Walsall.—Plans been approved by T.C. for erection of 16 parlour type and 214 non-parlour type houses on Wolverhampton-rd. site.

Wellington.—U.D.C. are to erect a further 24 houses on Roly Poly Field site. Mr. Ernest F. Howard, S.

Welwyn Garden City.—Work put in hand for factory of Young, Osmond & Young, Ltd., engineers, Bexley Heath. Plans by Wallis Gilbert & Partners, 29, Roland-gardens, South Kensington, S.W.7.

Weston-super-Mare.—Westminster Bank, Ltd., under consideration carrying out of alterations and additions to branch at corner of South-parade and West-st.

Winchester.—A. Haynes Johnson, of Winchester, plans £6,500 licensed house at Pitt Corner, Compton, for Eldridge Pope & Co. The justices granted the application.

Winchester.—Hants C.C. has approved £15,710 school at Cowplain for 350 mixed scholars.

Wisbech.—Report of conference between representatives of Isle of Ely C.C. and Wisbech T.C. concerning proposed new Wisbech bridge, stated that M.T. would make grant of 60 per cent. towards erection of the bridge.

Wokingham.—Plans being prepared for public house for Dymore, Brown & Co., Ltd., Royal Albert Brewery. Architect, P. E. Ravenscroft, 16, Friar-st., Reading.

Wollaston.—Brown & Fisher, architects, Wellingborough, attended Council meeting with plans for 6 houses in Howard-rd. These were passed.

Wolverhampton. — Housing Committee recommended erection of 356 houses—200 of non-parlour type, 6 of the parlour type, and 150 of two-bedroom type.

Wolverhampton.—T.C. passed plans:—Alec Hill, 4 houses, Trysull-rd.; H. & J. N. Patten, 5 shops, Merridale-rd.; Rev. J. Swift, new Lady Chapel, extensions, etc., SS. Peter & Paul's R.C. Church, North-st.

Worthing (Sussex).—Trustees of the Primitive Methodist Connection propose erecting church in Lyndhurst-rd., Worthing, Sussex, to designs of the architect, H. Kelsall, Armitage, 130, Haverstock-hill, London, N.W.3. Quantities prepared by T Sumner Smith, F.S.I., chartered quantity surveyor, Clifton Lodge, Victoria-park, Manchester.

FIRES.

Stonehaven.—Mackie Academy, Stonehaven, completely destroyed by fire. Damage is estimated at about £30,000.

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WROUGHT-IRON TUBES AND FITTINGS—

(Discount off List for lot of not less than £7 net value delivered direct from Works, 2½ per cent. less above gross discounts, carriage forward, if sent from London Stocks.)

	TUBES. Wrought Mild Steel.	Genuine Staffs. Iron.	FITTINGS. ¼ in. and under.	Over ¼ in.	FLANGES. ¼ in. and under.	Over ¼ in.
	%	%	%	%	%	%
Gas	67½	50	42½	45	52½	55
Water	63½	46½	37½	40	47½	50
Steam	60	42½	32½	35	42½	45
Galv. gas.....	55	37½	32½	35	42½	45
Galv. water	50	32½	27½	30	37½	40
Galv. steam	45	27½	22½	25	32½	35

C.I.—HALF-ROUND GUTTERS—London Prices ex Works

Per yd. in 6 ft. lengths.	Gutters.	Angles and Nozzles.	Stop Ends.
3 in.	1/3½	11½d.	3½d.
3½ in.	1/4½	1/1½	3½d.
4 in.	1/6	1/3	3½d.
4½ in.	1/7½	1/4½	4½d.
5 in.	1/10½	1/6½	5½d.

O.G. GUTTERS.

3 in.	1/8	1/4½	3½d.
3½ in.	1/8	1/4½	3½d.
4 in.	1/9½	1/4½	3½d.
4½ in.	1/11½	1/7½	4½d.
5 in.	2/4½	1/10½	5½d.

RAIN-WATER PIPES, &c.

Per yd. in 6 ft.	Pipe.	Bends, stock angles.	Branches, stock angles.
2 in. plain.....	1/10½	1/3	1/9½
2½ in. ,, ...	2/0½	1/4½	2/1½
3 in. ,, ...	2/6	1/9	2/7½
3½ in. ,, ...	2/11½	2/0½	3/0½
4 in. ,, ...	3/5	2/6½	3/8½

L.C.C. COATED SOIL PIPES—London Prices ex Works.

	Bends, stock angles.	Branches, stock angles.
	s. d.	s. d.
2 in. per yd. in 6 fts. plain	3 3	2 4½ 2 10
2½ in. ,,	3 9	2 7½ 3 7
3 in. ,,	4 6	2 10 4 2½
3½ in. ,,	4 11½	3 7 4 11½
4 in. ,,	5 5½	4 0½ 5 9

L.C.C. COATED DRAIN PIPES—London Price ex Works

	Bends, stock angles.	Branches, Pipe, angles, stock angles.	
	s. d.	s. d.	s. d.
3 in. per yd. in 9ft. lengths	4 4	5 1	8 0½
4 in. ,, ,,	4 10	5 8	10 0
5 in. ,, ,,	6 6	10 10	17 1
6 in. ,, ,,	6 8	13 2	21 9

Gasken for jointing, 38/6 per cwt.

IRON—	Per ton in London. £ s. d.		£ s. d.
Common bars.....	11 0 0	to	12 0 0
Staffordshire Crown Bars— Good merchant quality	11 10 0	to	12 10 0
Staffordshire Marked Bars.....	14 0 0	...	15 0 0
Mild Steel Bars	10 0 0	...	11 0 0
Steel Bars, Ferro-Concrete quality, basis price	10 0 0	...	11 0 0
Hoop iron, basis price	11 10 0	...	12 10 0
,, Galvanised	27 0 0	...	28 0 0
Soft Steel Sheets, Black— Ordinary sizes, to 20 g....	13 0 0	...	14 0 0
,, ,, ,, 24 g....	14 0 0	...	15 0 0
,, ,, ,, 26 g....	16 0 0	...	17 0 0
Sheets Flat Best Soft Steel, C.R. and C.A. quality— Ordinary sizes, 6 ft. by 2 ft. to 3 ft. to 20 g.	15 0 0	...	16 0 0
Ordinary sizes, 6 ft. by 2 ft. to 3 ft. to 22 g. and 24 g.....	16 0 0	...	17 0 0
Ordinary sizes, 6 ft. by 2 ft. to 3 ft. to 26 g....	18 0 0	...	20 0 0

No. 1 quality £4 per ton extra.

Flat and Galvanised Corrugated Sheets— Ordinary sizes, 6 ft. to 9 ft. to 20 g. ..... 16 10 0 ... 17 0 0

Ordinary sizes, 6 ft. to 9 ft. to 22 g. and 24 g. 17 0 0 ... 18 0 0

Ordinary sizes, 6 ft. to 9 ft. to 26 g. ..... 20 0 0 ... 21 0 0

Sheets Galvanised Flat, Best quality— ½ in. ⅝ in. 1 in. 1½ in. 2 in.

41/6 62/- 92/- 174/- 300/- 588/- per doz.

RIVER PATTERN SCREW DOWN MAIN FERRULES.

½ in. ⅝ in. 1 in.

39/6 60/- 116/6 per doz.

CAPS AND SCREWS.

1¼ in. 1½ in. 2 in. 3 in. 3½ in. 4 in.

7/6 10/- 14/- 23/- 30/- 42/- per doz.

DOUBLE NUT BOILER SCREWS.

½ in. ⅝ in. 1 in. 1½ in. 1½ in. 2 in.

7/6 11/- 17/- 29/- 36/- 63/- per doz.

BRASS SLEEVES.

1¼ in. 2 in. 3 in. 3½ in. 4 in.

10/- 12/- 20/- 24/- 31/- per doz.

NEW RIVER PATTERN CROYDON BALL VALVES, S.F.

½ in. ⅝ in. 1 in. 1½ in. 1½ in.

35/- 56/- 98/- 162/- 228/- per doz.

DRAWN LEAD P. & S. TRAPS WITH BRASS CLEANING SCREW.

1½ in. 1½ in. 2 in. 3 in.

8 lbs. P. traps ... 33/- 41/- 56/- 101/- per doz.

8 lbs. S. traps ... 35/- 45/- 66/- 126/- ,,

TIN.—English Ingots, 2/6 per lb. SOLDER.—Plumber's 1/1, Tinmen's 1/4, Blowpipe 1/5 per lb.

LEAD, &c.

(Delivered in London.)	£ s. d.
LEAD—Sheet, English, 4 lb. and up	30 10 0
Pipe in coils	31 0 0
Soil pipe	34 0 0
Compo pipe	35 0 0

NOTE.—Country delivery, 20s. per ton extra; lots under 3 cwt. 3s. per cwt. extra, and over 3 cwt. and under 5 cwt., 1s. 6d. per cwt. extra. Cut to sizes, 5s. cwt. extra.

Old lead, ex London area, at Mills ..... per ton 20 15 0

COPPER.

	s. d.
Seamless Copper tubes (basis)..... per lb.	1 1½
Strong sheet ..... ,,	1 0
Thin..... ,,	1 1
Copper nails ..... ,,	2 3
Copper wire ..... ,,	2 4

PLUMBERS' BRASS WORK.

Delivered in London.

NEW RIVER PATTERN SCREW DOWN BIB COCKS FOR IRON.

½ in. ⅝ in. 1 in. 1½ in. 1¼ in. 2 in.

29/- 45/- 76/- 153/- 246/- 510/- per doz.

NEW RIVER PATTERN SCREW DOWN STOP COCKS AND UNIONS.

½ in. ⅝ in. 1 in. 1¼ in. 1½ in. 2 in.

41/6 62/- 92/- 174/- 300/- 588/- per doz.

RIVER PATTERN SCREW DOWN MAIN FERRULES.

½ in. ⅝ in. 1 in.

39/6 60/- 116/6 per doz.

CAPS AND SCREWS.

1¼ in. 1½ in. 2 in. 3 in. 3½ in. 4 in.

7/6 10/- 14/- 23/- 30/- 42/- per doz.

DOUBLE NUT BOILER SCREWS.

½ in. ⅝ in. 1 in. 1½ in. 1½ in. 2 in.

7/6 11/- 17/- 29/- 36/- 63/- per doz.

BRASS SLEEVES.

1¼ in. 2 in. 3 in. 3½ in. 4 in.

10/- 12/- 20/- 24/- 31/- per doz.

NEW RIVER PATTERN CROYDON BALL VALVES, S.F.

½ in. ⅝ in. 1 in. 1¼ in. 1½ in.

35/- 56/- 98/- 162/- 228/- per doz.

DRAWN LEAD P. & S. TRAPS WITH BRASS CLEANING SCREW.

1½ in. 1½ in. 2 in. 3 in.

8 lbs. P. traps ... 33/- 41/- 56/- 101/- per doz.

8 lbs. S. traps ... 35/- 45/- 66/- 126/- ,,

TIN.—English Ingots, 2/6 per lb. SOLDER.—Plumber's 1/1, Tinmen's 1/4, Blowpipe 1/5 per lb.

PAINTS, &c.

Raw Linseed Oil, in pipes	per gallon	0	2 8
,, ,, ,,	in barrels ... ,,	0	2 10
,, ,, ,,	in drums ... ,,	0	3 0
Boiled ,, ,,	in barrels ... ,,	0	3 0
,, ,, ,,	in drums ... ,,	0	3 3
Turpentine in barrels	,,	0	4 3
,,	in drums (10 galls) ,,	0	4 5
Genuine Ground English White Lead, per ton		53	0 0

(In not less than 5-cwt. casks.)

Extra for 1-cwt. kegs over 5-cwt. casks is 5/0 cwt.

* The information given on this page has been specially compiled for THE BUILDER, and is copyright. The aim in this list is to give, as far as possible, the *average* prices of materials, not necessarily the highest or lowest. Quality and quantity obviously affect prices—a fact which should be remembered by those who make use of this information.

PRICES CURRENT OF MATERIALS (*contd.*)

PAINTS, &c. (*contd.*)

GENUINE WHITE LEAD PAINT, "Father Thames," "Nine Elms," "Park," "Supremus," "St. Paul's," "Morganswyte," "Potsco," "J." Brand, and other best brands (in 14 lb. tins) not less than 5 cwt. lots ... per ton delivered £ 70 s. 10 d. 0

Red Lead, Dry (packages extra)	per ton	39	10	0
Best Linseed Oil Putty	per cwt.	0	15	0
Filicol	"	0	15	6
Size. XD quality	ftn.	0	2	6

GLASS.

ENGLISH SHEET GLASS IN CRATES OF STOCK SIZES.

	Per ft.		Per ft.
15 oz. fourths	2½d.	32 oz. fourths	6d.
15 " thirds	3½d.	32 " thirds	8½d.
21 " fourths	3½d.	Obscured Sheet, 15 oz.	3½d.
21 " thirds	4d.	" 21 "	4½d.
26 " fourths	4d.	Fluted, 15oz.6½d., 21oz.	9d.
26 " thirds	6½d.	Enfiled, 15 oz. 4½d.,21oz.	6d.

Extra price according to size and substance for squares cut from stock.

ENGLISH ROLLED plate in CRATES OF STOCK SIZES.

	Per ft.
¼ Rolled plate	4½d.
⅜ Rough rolled	5½d.
½ Rough rolled	5½d.
Figured Rolled, Baltic, Oceanic, Arctic Stippolyte, and small and large Flemish White	5½d.
Ditto, tinted	8½d.
Rolled Sheet	4½d.
White Rolled Cathedral	4½d.
Tinted do.	6½d.

Cast plate is same price as rough rolled.

VARNISHES, &c.

		Per Gallon. £	s.	d.
Oak Varnish	Outside	0	14	0
Fine ditto	ditto	0	16	0
Fine Copal	ditto	0	18	0
Pale Copal	ditto	1	0	0
Pale Copal Carriage	ditto	1	4	0
Best ditto	ditto	1	12	6
Floor Varnish	Inside	0	18	0
Fine Pale Paper	ditto	0	18	0
Fine Copal Cabinet	ditto	1	2	6
Fine Copal Flatting	ditto	1	0	6
Hard Drying Oak	ditto	0	18	0
Fine Hard Drying Oak	ditto	0	19	0
Fine Copal Varnish	ditto	1	0	0
Pale ditto	ditto	1	2	0
Best ditto	ditto	1	12	0
Best Japan Gold Size		0	12	6
Best Black Japan		0	10	6
Oak and Mahogany Stain (water)		0	12	0
Brunswick Black		0	7	6
Berlin Black		0	14	0
Knotting (patent)		1	5	0
French and Brush Polish		0	17	0
Liquid Dryers in Terebine		0	9	0
Cuirass Black Enamel		0	7	6

NEW BUILDINGS IN SCOTLAND

The Editor would be glad to receive information for publication under this heading from architects, builders, or other persons concerned.

Argyll.—ROAD.—Argyll County Council, with the approval of the Ministry of Transport, have intimated acceptance of the tender of Messrs. Crowley, Russell & Co., Glasgow, for the construction of a new access road through the Argyllshire portion of Kinlochleven, at a cost of approximately £17,000.

Dundee.—BUILDINGS.—Plans and sections of the following proposed new buildings, etc., have been lodged at the office of the City Engineer:—Airlie place—alterations for Mr. David Johnston, Messrs. Thoms & Wilkie, architects, 21, South Tay-street; Frederick-street—dwelling-houses for Mr. David Anderson; Seagate—alterations for the Dundee Town Council; and Victoria-street—alterations for Messrs. Baxter Bros., Ltd., Mr. Robert Gibson, architect, 2, India-buildings.

Glasgow.—BUILDING.—Plans for the erection by the Corporation of 180 dwelling-houses in the eastern district of the city have been passed by the Glasgow Dean of Guild Court. Of the 180 new houses, exactly one half will form a new scheme at Allan-street and Wardrop-street, off Dalmarnock-road, the other half being an extension of the scheme at Braidfauld-street, off Toilcross-road. It is estimated that the cost of each scheme will be about £26,000. The following other linings were granted:—Education Authority of Glasgow—temporary classrooms in Clare-street at Garngad-road, and to erect a temporary school and offices at Gartocher-road and Shettleston-road. The temporary school will be a wooden erection to accommodate about 500 scholars, the overflow from local schools; Clydesdale Bank, Ltd.—alterations to premises in St. Enoch-square; Deacons' Court of Tollcross Park U.F. Church—addition to church hall to form classrooms at Drumover-drive; P. & W. Anderson (Glasgow), Ltd., 64, Douglas-street—three double villas at Dolphin-road; the Corporation Housing Department—to construct roads and sewers at Quarrybrae and Kilmeny-streets and at Knightswood (No. 3 area).

Stirling.—HOUSING.—The Town Council are inviting tenders for the following work in connection with the erection of 52 houses at Drip-road, Stirling:—Excavator, concrete, mason, and brickwork; carpenter, joiner, and ironmongery work; glazier work; slater work; plumber work, gasfittings, and drainage; plaster work; cement and rough-cast work; electrical work; painter work; interiors and grates, etc. Specifications and schedules of quantities are by Mr. Andrew H. Goudie, Burgh Engineer.

Stirling.—SCHOOL.—After consideration of a memorandum regarding the necessity for providing additional accommodation at Stirling and Bannockburn R.C. Schools, the Stirlingshire Education Authority has agreed, on the recommendation of the Property Committee, to erect on a suitable site a central school for the R.C. advanced division pupils of Stirling and district, and to consider the advisability of providing at this centre accommodation for R.C. pupils.

BUILDING TRADE WAGES IN SCOTLAND.*

THE following are the present rate of wages in the building trade in the principal towns of Scotland. Every endeavour is made to ensure accuracy, but we cannot be responsible for errors that may occur.

	Masons.	Bricklayers.	Carpenters, Joiners.	Plasterers.	Slaters.	Plumbers.	Painters.	Labourers—Masons'†; Bricklayers'†; Plasterers'†
Aberdeen	1/7½	1/7½	1/7½	1/8½	1/7½	1/7½	1/8	†1/2½ †1/2½
Airdrie	1/7½	1/7½	1/7½	1/8½	1/7½	1/7½	1/8	†1/2½ †1/2½
Alexandria	1/7½	1/7½	1/7½	1/8½	1/7½	1/7½	1/8	†1/2½ †1/2½
Arbroath	1/6½	1/6½	1/6½	1/7	1/6½	1/6½	1/5½	1/1
Ayr	1/7½	1/7½	1/7½	1/8½	1/7½	1/7½	1/8	1/2½
Bathgate	1/7½	1/7½	1/7½	1/8½	1/7½	1/7½	1/8	1/2½
Blairgowrie	1/7	1/7	1/7	1/7½	1/7½	1/7½	1/6½	1/2 to 1/3
Bo'ness	1/7½	1/7½	1/7½	1/8½	1/5	1/7	1/4	10d. to 1/-
Coatbridge	1/7½	1/7½	1/7½	1/8½	1/7½	1/7½	1/8	†1/2½ †1/2½
Dumbarton	1/7½	1/7½	1/7½	1/8½	1/7½	1/7½	1/8	†1/2½ †1/2½
Dumfries	1/6½	1/6½	1/6½	1/7½	1/6½	1/6½	1/6½	†1/2½ †1/2½
Dundee	1/7½	1/7½	1/7½	1/8½	1/7½	1/7½	1/8	1/2
Dunfermline	1/7½	1/7½	1/7½	1/8½	1/7½	1/7½	1/8	†1/3 †1/2½
Edinburgh	1/7½	1/7½	1/7½	1/8½	1/7½	1/7½	1/7½	†1/2½ †1/2½
Falkirk	1/7½	1/7½	1/7	1/8½	1/7	1/7	1/8	†1/3½ †1/2½
Fort William	1/6	1/6	1/6	1/6	1/6	1/6	1/6½	1/2½
Galashiels	1/6½	1/7	1/6½	1/7	1/6½	1/6	1/6	1/2
Glasgow	1/7½	1/7½	1/7½	1/8½	1/7½	1/6½	1/7	1/2
Greenock	1/7½	1/7½	1/7½	1/8½	1/7½	1/7½	1/8	†1/2½ †1/2½
Hamilton	1/7½	1/7½	1/7½	1/8½	1/7½	1/7½	1/7	1/2½
Hawick	1/7	1/7	1/7	1/8½	1/7½	1/7½	1/8	†1/2½ †1/2
Helensburgh	1/7½	1/7½	1/7½	1/7–1/7½	1/7	1/7	1/7	1/2½
Inverness	1/8	1/6	1/6	1/8½	1/7½	1/7½	1/7	1/- to 1/2
Kilmarnock	1/7½	1/7½	1/7½	1/8	1/6	1/6	1/6	1/2½
Kirkcaldy	1/7½	1/7½	1/7½	1/8½	1/7½	1/7½	1/8	†1/2½ †1/2½
Kirkwall	1/5	1/5	1/4	1/8½	1/7½	1/7½	1/8	1/2½
Lanark	1/7½	1/7½	1/7½	1/8½	1/5	1/5	1/4	†1/2½ †1/2½
Leith	1/7½	1/7½	1/7½	1/8½	1/7½	1/7½	1/8	1/-
Motherwell	1/7½	1/7½	1/7½	1/8½	1/7½	1/7½	1/8	†1/2½ †1/2½
Perth	1/7½	1/7½	1/7½	1/8½	1/7½	1/7½	1/8	†1/3½ †1/2½
Stirling	1/7½	1/7½	1/7½	1/8½	1/7½	1/7½	1/8	†1/2½ †1/2½
Stirlingshire (Eastern District)	1/7½	1/7½	1/7½	1/8½	1/7½	1/7½	1/8	†1/2½ †1/2½
Wishaw	1/7½	1/9	1/7½	1/8½	1/7½	1/7½	1/8	1/2½
		1/7½	1/7½	1/8½	1/7½	1/7½	1/8	†1/2½ †1/2½

* The information given in this table is copyright. The rates of wages in the various towns in England and Wales are given on page 396.

(*Continued from page 386.*)

to special rooms; Wm. Mallinson and Sons, Ltd., walnut veneers and special high grade timber, English and Imperial; Howard and Sons, Ltd., parquet flooring; H. H. Martyn and Co., Ltd., wood carving; The Bromsgrove Guild, Ltd., wood carving, Silveroid metalwork to external doors and lift doors, name plates; Jas. Gibbons, Ltd., locks and other hardware; Henry Hope and Sons, Ltd., bronze and Silveroid door furniture, metal casements and lantern lights; Lighting Trades, Ltd., Silveroid switch plates and valve plates, basement and lavatory electric light fittings; The Birmingham Guild, Ltd., Silveroid metalwork to stair balustrading and handrails, colonnade balustrading and lift cages, wrought-iron entrance gates, name plates; Wm. Newman and Sons, Ltd., small Silveroid fitments; B. Holden and Co., linoleum; Macinlop, Ltd., rubber floor covering, rubber treads and nosings to stairs; F. A. Norris and Co., Ltd., iron staircases; J. A. King and Co., Ltd., roof lights; John Tann, Ltd., Dreadnought Fireproof Doors, Ltd., iron doors; Geo. Rome and Co. (London), Ltd., solid plastering; Geo. Jackson and Sons, Ltd., fibrous plaster, ceilings to rooms and corridors and acoustic plaster and carton pierre; Stourbridge Glazed Brick and Fireclay Co., Ltd., wall tiling and faience blocks; Matthew, Hall and Co., Ltd., plumbing and sanitary work; Shanks and Co., Ltd., sanitary fittings; Adamsez, Ltd., drinking fountains; T. and W. Farmiloe, Ltd., glazing; Pilkington Bros., Ltd., Vita glass; Karl Parsons, Horace Wilkinson, stained glass; Naylor Bros. (London), Ltd., paint; T. Crocker, polishing joinery; C. Isler and Co., Ltd., artesian well; T. Clarke and Co., Ltd., electric lighting and power; Newbury and Thomas, special electrical apparatus; Waygood-Otis, Ltd., electric lifts; The Reliance Telephone Co., Ltd., private automatic telephones, fire alarm and watchman's tell-tale system; Rd. Crittall and Co., Ltd., heating, ventilation, steel chimney and flue, kitchen equipment, domestic hot and cold water services, ozone air; H. and T. Danks (Netherton), Ltd., boilers; Matthew and Yates, ventilating fans; J. and E. Hall, Ltd., refrigerating plant; British Vacuum Cleaner and Engineering Co. Ltd., vacuum cleaning installation; W. J. Furse and Co., Ltd., lightning conductors; The Synchronome Co., Ltd., electric clocks; McGruer Hollow Spar Co., Ltd., flagstaffs; Pulsometer Engineering Co., Ltd., stereophagus pumps; The Incinerator Co., incinerator; J. Oswald and Sons, Ltd., coal bunker doors; Lamson Store Service Co., Ltd., letter conveyor; Mather and Platt, Ltd., cast-iron sectional tanks, pumps; John Bell and Croyden, mercury, vapour and carbon arc lamps, etc., for sunlight treatment room; Chubb and Sons Lock and Safe Co., Ltd., steel fire resisting safes; Read and Campbell, Ltd., J. Blakeborough and Sons, fire appliances; Fredk. Braby and Co., Ltd., wire enclosure for staircases; Spencer, Heath and George, Ltd., gymnasium fittings; G. H. Carter, Ltd., special finishings to squash racquets courts; Sankey-Sheldon, Ltd., Ronco, Ltd. (Art Metal Equipment Dept.), steel cupboards and shelving, etc.; The London Sand Blast Decorative Glass Works, Ltd., daylight windows and special glass; Tidmarsh and Sons, spring roller blinds; Neon Lights (1928), Ltd., Neon light to flagstaff; Samuel Haskins and Bros., Ltd., Arthur L. Gibson and Co., rolling shutters; John Elbo, "Expanco" cork parquetry; Hollis Bros. and Co., Ltd., wood block flooring; Hailwood and Ackroyd, Ltd., special electric light fittings; Robert Adams, spring hinges; Metro-Vick Supplies, Ltd., special reflectors for daylight windows; Woodfyt Sales, Ltd., clock cases; Geo. Hammer and Co., Ltd., oak fittings for despatch room; H. Slingsby, ladders and truck for stationery store; C. A. Haward, escape staircases to stationery store.

Sir Frank Baines, F.R.I.B.A., is the architect, and Mr. Alfred Cox, F.R.I.B.A., associate architect.

CURRENT PRICES FOR BUILDING WORK IN LONDON*

EXCAVATOR.

		s.	d.
Digging and throwing or wheeling and filling carts, and carting away to shoot—6 ft. deep	per yard cube	11	0
Add if in clay	" "	1	0
Add for every additional depth of 6 ft.	" "	0	6
Planking and strutting to trenches	per foot super	0	5
Do. to sides of excavation, including shoring	" "	1	0

CONCRETOR.

		s.	d.
Portland cement concrete in foundation 1 to 6	per yard cube	38	0
Add if in underpinning in short lengths	" "	7	0
Add if in floors 6 in. thick	" "	3	3
Add if in beams	" "	3	9
Add if aggregate 1 : 2 : 4	" "	10	0
Add for hoisting not exceeding 10 ft. beyond the first 10 ft.	" "	2	6

BRICKLAYER.

		£	s.	d.
Reduced brickwork in lime mortar and Fletton bricks	per rod	32	0	0
Add if in stocks	"	7	10	0
Add if in Staffordshire blues	"	22	0	0
Add if in Portland cement and sand	"	1	10	0

FACINGS.

		s.	d.
Extra for facing in English or Flemish bond for every 10s. per 1,000 over the price of the common bricks	per ft. super	0	1½

POINTING.

Neat flat struck or weathered joint	" "	0	0	3

ARCHES.

Extra only to the price of ordinary brickwork:—				
Fair external in half brick rings	" "	0	0	10
Axed in stocks	" "	0	1	9
Rubbed and gauged jointed in putty camber or segmental	" "	0	6	0

SUNDRIES.

Damp course in double course of slates breaking joint and bedded in Portland cement	" "	0	1	0
Setting ordinary register grates and stoves	each	1	0	0
Setting kitchener, including forming flues, &c., with all necessary fire bricks	"	4	15	0

ASPHALTER.

		s.	d.
Half-inch horizontal damp course	per yard super	4	6
Three-quarter-inch vertical damp course	" "	9	6
Three-quarter-inch on flats in two thicknesses	" "	6	3
Angle fillet	per foot run	0	3
Skirting and fillet 6 in. high	" "	1	2

MASON.

		s.	d.
York stone templates fixed	per foot cube	13	0
York stone sills fixed	" "	22	0
Bath stone and all labour fixed	" "	10	6
Beer stone and all labour fixed	" "	15	0
Portland stone fixed	" "	20	0

SLATER.

		s.	d.
Welsh 16 in. × 8 in. 3 in. lap, including nails	per square	72	9
Do. 20 in. × 10 in. Do. Do.	"	80	9
Do. 24 in. × 12 in. Do. Do.	"	90	0

CARPENTER AND JOINER.

		s.	d.
Fir framed in plates	per foot cube	5	0
Do. joists	" "	5	6
Do. roofs, floors and partitions	" "	6	0
Do. trusses	" "	8	6

	¾"	1"	1¼"	2"
Deal rough close boarding per sq.	35/6	40/-	45/-	72/-

		s.	d.
Flat centering for concrete floor, including struts or hangers	"	50	0
Do. to beams	per ft. sup.	0	11
Centre for arches	"	1	6
Gutter boards and bearers	"	1	0

FLOORING.

	¾"	1"	1¼"	1½"
Deal edges shot per sq.	—	44/6	53/-	60/6
Do. tongued and grooved "	—	49/-	57/6	65/-
Do. matchings "	45/-	51/-	—	—
Moulded skirting, including backings and grounds per ft. sup.	1/6	1/9	2/-	2/6

SASHES AND FRAMES.

		s.	d.
One-and-a-half moulded sashes or casements	per foot super	1	10
Two Do. Do. Do.	" "	2	1
Add for fitting and fixing	" "	0	3
Deal-cased frames with 1 in. inner and outer linings, 1½ in. pulley stiles tongued to linings, hard wood sills with 2 in. moulded sashes in squares, double hung, double hung with pulleys, lines and weights; average size	" "	3	9

DOORS.

	1½"	1¾"	2"
Two-panel square framed per ft. sup.	2/1	2/4	2/6
Four-panel Do. "	2/5	2/8	2/11
Two-panel moulded both sides "	2/8	2/11	3/2
Four-panel Do. Do. "	2/11	3/2	3/5

CARPENTER AND JOINER—continued.

FRAMES.

		s.	d.
Deal wrot moulded and rebated	per foot cube	14	0

	1"	1¼"	1½"
Plain deal jamb linings framed per ft. sup.	1/7	1/8	1/11
Deal shelves and bearers "	1/4	1/6	1/9
Add if cross-tongued "	2d.	2d.	2d.

STAIRCASES.

	1"	1¼"	1½"	2"	2½"
Deal treads and risers in and including rough brackets	2/1	2/4	2/9	—	—
Deal strings wrot on both sides and framed	1/8	2/-	2/2	2/8	—

		s.	d.
Housings for steps and risers	each	0	11
Deal balusters, 1 in. × 1¼ in.	per ft. run	0	9
Mahogany handrail: average, 3 in. × 3 in.	" "	6	0
Add if ramped	" "	12	0
Add if wreathed	" "	24	0

FIXING ONLY IRONMONGERY (INCLUDING SCREWS).

6 in. barrel bolts	8½d.	Rim locks	2/-
Sash fasteners	11½d.	Mortice locks	4/6
Casement fasteners	1/5	Patent spring hinges and letting into floor and making good	19/-
Casement stays	1/2		
Cupboard locks	1/5		

FOUNDER AND SMITH.

		s.	d.
Rolled steel joists	per cwt.	16	3
Plain compound girders	"	19	0
Do. stanchions	"	21	9
In roofwork	"	27	6

RAIN-WATER GOODS.

	3"	4"	5"	6"
Half-round plain rebated joints ft. run	1/6	1/9	2/-	2/6
Ogee Do. Do. "	1/9	2/-	2/6	3/3
Rain-water pipes with ears "	1/9	2/7	—	—
Extra for shoes and bends each	4/4	5/11	—	—
Do. stopped ends "	1/11	2/4½	3/7	4/-
Do. nozzles for inlets "	2/2	2/7	3/10	4/3

PLUMBER.

		s.	d.
Milled lead and laying in flashings and gutters	per cwt.	43	6
Do. Do. in flats	"	42	6
Extra labour and solder in coated cesspools	each	6	9
Welt joint	per ft. run	0	6
Soldered seam	" "	1	3
Copper nailing	" "	0	3

	½"	¾"	1"	1½"	2"	4"
Drawn lead waste per ft. run	1/2	1/9	2/-	3/4	4/-	—
Do. service "	1/8	2/2	2/7	3/10	—	—
Do. soil "	—	—	—	—	—	6/9
Bends in lead pipe each	—	—	—	—	3/3	8/2
Soldered stop ends "	1/2	1/8	2/1	2/10	3/6	—
Read lead joints "	11d.	1/-	1/3	1/11	2/4	4/10
Wiped soldered joints "	2/10	3/6	4/-	4/11	6/6	9/9
Lead traps and cleaning screws "	—	—	—	14/7	19/6	—
Bib cocks and joints "	6/4	9/7	15/4	41/-	—	—
Stop cocks and joints "	15/4	17/2	25/8	64/-	—	—

PLASTERER.

		s.	d.
Render, float and set in lime and hair	per yard sup.	2	6
Do. Do. Sirapite	" "	2	9
Do. Do. Keen's	" "	4	0
Add saw lathing	" "	1	7
Add metal lathing	" "	2	6
(Not including hangers or runners, etc., for suspended ceilings.)			
Portland cement screed	" "	2	2
Do. plain face	" "	3	3
Mouldings in plaster	per 1 girth	0	1½
One-and-a-half granolithic paving	per yard sup.	5	6

GLAZIER.

		s.	d.
21-oz. sheet plain	per foot sup.	0	8½
26-oz. Do.	" "	1	0
Obscured sheet	"	1	1
⅛-in. rolled plate	" "	0	9
¼ in. rough rolled or cast plate	" "	0	10½
¼-in. wired cast plate	" "	1	4

PAINTER.

		s.	d.
Preparing and distempering, 2 coats	per yard sup.	0	9
Knotting and priming	" "	0	7
Plain painting, 1 coat	" "	0	9
Do. 2 coats	" "	1	2
Do. 3 coats	" "	1	9
Do. 4 coats	" "	2	4
Graining	" "	2	3
Varnishing twice	" "	1	9
Sizing	" "	0	3
Flatting	" "	0	7
Enamel	" "	1	1
Wax polishing	per foot sup.	0	6
French polishing	" "	1	2
Preparing for and hanging paper	per piece, 2/- to 4/-		

* These prices apply to *new buildings only*. They cover superintendence by foreman and carry a profit of 10% on the prime cost without establishment charges. A percentage of 1½ should be added for Employers' Liability and National Health and Unemployment Acts and from 1s. 6d. per £100 for Fire Insurance. The whole of the information given on this page is copyright.

TENDERS

* Denotes *accepted.*
† Denotes *provisionally accepted.*
‡ Denotes *recommended for acceptance.*
§ Denotes *accepted subject to modifications.*

Aberdeen.—Extension of the wharf at Commercial-quay and relative works, for the Harbour Commissioners. Mr. R. Gordon Nicol, engineer, Harbour Engineer's Office:—
*Clark & Chapman, Aberdeen.

Abram.—33 non-parlour type houses in Cranked-wood-road, for the U.D.C. Surveyor:—
*Clough & Gaskell, Spring Bank, Wigan £11,385

Alfreton.—12 parlour type and 20 non-parlour houses, and for street works incidental thereto, at Preston-avenue, and for erection of 14 houses, parlour type, in seven blocks, at Leamoor-avenue, Leabrooks, for the U.D.C. Surveyor:—

	Alfreton 12 parlour £		Alfreton 20 non-parlour £		Alfreton Street works £		Leabrooks 14 parlour £
Bowmer & Kirkland, Heage	4,690		6,885		...1,065		5,615
George Brentnall, Riddings	4,391		6,484		820		5,180
Arthur Brentnall, Somercotes	—		—		—		5,180
Clay Cross Co.	*3,946		*5,966		*1,050		4,770
W. A. Goss, Bolsover	4,920		6,700		850		5,880
O. Gration, Heage	—		—		—		5,690
Harris Brothers, Marehay	4,744		7,020		1,029		5,600
Harris & Hunt, Marehay	4,600		6,558		1,011		5,390
S. Higton & Sons, Sheffield	4,511		6,806		980		5,439
Hitchin & Co., Alfreton	4,346		6,679		857		5,165
B. Hodgkinson, Morton	4,200		6,600		1,000		5,096
Hutchinson & Son, Sutton-in-Ashfield	4,776		7,222		1,122		5,712
George Roe, Alfreton	—		—		—		5,876
George Shipman, Riddings	—		—		—		5,371
L. Watson, Somercotes	—		—		—		*5,062
W. H. Wharton, Swanwick	—		—		—		5,180
W. J. Whysall, Alfreton	—		—		—		5,712
W. Wood	4,908		7,132		1,657		5,892

Amersham.—New chespale fencing and boarded screens, for the Chalfon St. Giles houses, for the R.D.C.:—
*Hatchett & Sons £114

Battle.—Houses, for the R.D.C.:—
Two cottages at Ewhurst—
*J. Perigoe & Sons, Northiam £809
Three pairs of workmen's dwellings at Crowhurst—
*G. Tasker, Rye £2,433
12 workmen's dwellings at Sedlescombe—
*G. Tasker, Rye £3,482

Birmingham.—For (1) new kitchen and pantry at George-street West School; (2) kitchen and pantry at Little Green-lane Special School; (3) reconstruction of science laboratory at Little Green-lane Special School; (4) temporary classrooms at Paget-road Council School, Pyke Hayes; (5) staff room and stock-room at Dudley-road School; (6) stock-room and staff rooms at Rea-street Council School; (7) staff room and stock-room at Brookfields Council School; (8) staff room and stock-rooms at Norton-street Council Schools; (9) alterations at Central Technical School, Suffolk-street; (10) replacing existing sanitary accommodation at College-road Council School, for the E.C.:—

‡John T. Harris, Ltd., Oakwood-road, Sparkhill	(1) £1,230; (2)	£1,248
‡L. Gorton, Sparkbrook	(3)	£242
‡Cowiesons, Ltd., Glasgow	(4)	£435
‡H. H. Crump, Edgbaston	(5)	£297
‡Parsons & Morrin, Birmingham	(6)	£879
‡J. Holyoak & Son, Erdington	(7)	£850
‡John T. Harris, Ltd.	(8)	£530
‡John T. Harris, Ltd.	(9)	£114
‡John T. Harris, Ltd.	(10)	£1,360

Bishops Stortford.—Extensions at the Northgate schools, for the Hertfordshire E.C.:—
*Alfred Clark, Ltd., Bishops Stortford £4,241

Bridgwater.—Convenience and sports pavilion, in Victoria-park, for the Corporation. Mr. H. P. Bishop, Borough Engineer:—

F. J. Cox	£440 0
C. C. Bird & Son	410 0
Stockham & Son	384 0
C. Bryer & Son	370 0
*A. Geen & Son	362 12

(All of Bridgwater.)

Bromley (Kent).—Block of shops and flats, in Beckenham-lane. Messrs. Yates, Cook & Darbyshire, architects, 43, Great Marlborough-street, W.1. Messrs. W. E. Writer & Partners, 43, Great Marlborough-street, W.1, quantity surveyors:—
*Bovis (1928), Ltd., 43, Upper Berkeley-street, W.1.

Bromley (Kent).—New branch library, at Burnt Ash-lane, for the Corporation:—

B. A. Vickers & Son, Ltd., London	£2,152
Woodhams & Tyler, Bromley	2,135
A. J. Easton, Willesden, N.W.11	2,140
R. Mansell, Croydon	1,987
F. P. Duthoit & Son, Bromley	1,984
G. H. Dibblin, Dartford	1,920
Clarke & Leahy, Ltd., Erith	1,900
D. Pierson & Co., Ltd., Wandsworth Common	1,896
N. Smith & Son, Maidstone	1,880
*Bernand & Pickett, Ltd., Wallington	1,875

Burton-upon-Trent.—Public convenience, retaining wall, and certain street works at Bridge-street and Hay Wharf-road, for the C.B. Mr. G. T. Lynam, Borough Engineer and Surveyor:—

Hay Wharf-road—

A. Holmes & Sons	£2,197 0 0
H. Edwards, Ltd.	2,090 0 0
G. H. Adams	2,087 0 0
G. F. Tomlinson & Son, Derby	2,034 16 11
G. Hodges & Son	2,090 0 0
*T. Lowe & Sons, Ltd.	1,899 0 0

Bridge-street Convenience—

A. Holmes & Sons	£2,679
H. Edwards, Ltd.	2,493
Worthington & Willson	2,485
G. Hodges & Son	2,470
R. Kershaw & Sons	2,427
G. H. Adams	2,243
*T. Lowe & Sons, Ltd.	2,156

(All of Burton-on-Trent.)

Bury.—Extensions at the Walmersley Winery, Bury, for the Anglo Continental Grape Products, Ltd. Mr. C. R. Cooper, L.R.I.B.A., architect and surveyor, Market-street:—
*John Tinline, Ltd., Bury.
Steelwork—
*Jos. Webb & Sons, Ltd., Bury.

Cheltenham.—66 non-parlour type houses on land in Folly-lane, for the Corporation. Mr. T. Malvern, L.R.I.B.A., 21, Winchcomb-street:—

W. J. B. Halls, Ltd., Gloucester	£30,636
F. Rich & Son, Swansea	27,522
E. Walters & Son, Bristol	25,366
A. C. Billings & Sons, Ltd., Cheltenham	25,222
T. F. Howells, Ltd., Caerphilly	24,735
F. Fisher, Churcham, Glos.	24,361
Alexander, Worcester	24,270
Jewell & Son, Hereford	23,970
Reynolds, Harries & Co., Cheltenham	23,588
J. H. Thompson & Sons, Ltd., Grimsby	23,430
W. Drew, Cheltenham	23,325
Miles & Son, Coleford, Glos.	22,905
Eadie, Towers & Co., Wolverhampton	22,650
Steward, Broadway, Worcs.	22,009
AMENDED.	
Eadie, Towers & Co., Wolverhampton	22,981
*Steward, Broadway, Worcs.	22,212

Coulsdon and Purley.—Pavilion in the Memorial Ground, for the U.D.C.:—
*Bacon & Son, Ltd., Coulsdon £805

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Publishers, 94 High Holborn, London, W.C.

Dagenham.—Construction of underground convenience for men and women, at Chequers-parade, for the U.D.C. Mr. T. P. Francis, acting engineer and surveyor:—
*Wm. Simms, Ltd., London.

Dagenham.—Block of shops in Oxlow-lane. Mr. Edward Meredith, F.R.I.B.A., architect, 7, Goodmayes-road, Goodmayes:—
*Holland Bros., Grove-road, Chadwell Heath.

Exeter.—Setting a new boiler, erection of a new boiler house, engineer's shop, building materials shed, etc., new battery room, alterations to engine room and various alteraions in the basement of the Halford Wing at the Royal Devon and Exeter Hospital, for the Committee. Mr. A. C. Harbottle, architect, County-chambers, Exeter:—

R. E. Spiller, Chard	£3,086 0 0
F. J. Stanbury, Exeter	3,040 9 7
W. R. Brealy, Exeter	2,946 10 0
Dart & Francis, Crediton	2,896 0 0
Westcott Austin & White, Exeter	2,872 0 0
Nicks Bros., Bradninch	2,853 0 0
Wakeham & Tucker, Exeter	2,842 15 5
Sleeman & Sons, Exeter	2,823 9 0
Stephens & Son, Exeter	2,807 0 0
E. C. Lea & Co., Exeter	2,774 4 6
*Ham & Passmore, Exeter	2,692 0 0
W. H. Coleman & Co., Longdown	2,608 0 0
W. Heitch & Son, Ottery St Mary	2,404 7 0
Soper & Ayers, Exeter (exclusive of boiler setting)	2,337 0 8
Poulton & Son, Reading (boiler setting only)	455 11 4
H. Windsor & Co., Fulham (boiler setting only)	481 15 0

Fleet.—New Western Area showrooms, for the Aldershot Gas, Water and District Lighting Co., Victoria-road. Mr. John Love, architect, Fleet, Hants:—
*Chapman, Lowry & Puttick, Ltd., Haslemere.

Folkestone.—Branch bank for Barclays Bank, Ltd., in Sandgate-road. Mr. J. L. S. Dahl, F.R.I.B.A., architect, Cheriton-place:—
*G. H. Denne & Son, Deal.

Godalming.—Improvements and repairs to the Old Town Hall, for the T.C. Mr. G. Bertram Hartfree, Borough Architect, Engineer and Surveyor:—

Guild of Builders, Guildford	£522
Fry & Son	487
Bunning & Fitton Adams	468
G. Mayers	465
aT. Bishop	444
aW. H. Fiske	444

aTo re-tender to a slightly altered specification.
(All of Godalming.)

Halstead.—Erection of houses of the non-parlour type, for the R.D.C.:—

	Per pair.
Greenstead Green, pair—	
*H. G. Bragg	£743
High-street Green, 2 pairs—	
*A. & J. Aldred	756
Toppesfield, 2 pairs—	
*G. T. Elsdon	762
Gainsford End, pair—	
*G. T. Elsdon	774
White Colne, 2 pairs—	
*C. Wash	748
Little Yeldham, 2 pairs—	
*Palmer & Corder	762

Harrogate.—Alterations to the public library in Victoria-avenue, for the T.C. Mr. C. E. Rivers, architect:—
*G. B. Scaife, Elloughton (Yorks).
Joiners—
*Allen & Sons, Harrogate.
Plumbing—
*Geo. Thompson, Harrogate.

Hendon.—Erection of fencing at Mill Hill and Basing Hill-parks, for the U.D.C.:—
‡J. Baker & Co., Newport (Mon).

Horsforth.—2 public shelters at Stanhope Drive and near the Bridge Inn, for the U.D.C.:—
*F. Slater.

Hull.—Alterations to the Good Fellowship Inn, Cottingham-road. Messrs. Wheatley & Houldsworth, architects, Saville House-chambers, Saville-street:—
*Fenner, Panton & Co., Ltd., Hull.

Ipswich.—Houses for the T.C.:—

	Each.
2½ houses—	
*H. E. Pitt, Ltd., Sunderland	£352 0
3 houses—	
*H. E. Pitt, Sunderland	350 0
4½ houses—	
*Pearson & Blackwell, Ltd., Doncaster	335 18
6 houses—	
*Pearson & Blackwell, Ltd., Doncaster	343 12

King's Lynn.—54 houses on the Loke-road and Wisbech and Saddlebow-roads estate, for the T.C.:—

	Each block.
Block of 6 houses on the Loke-road estate—	
*E. Knape & Son	£2,094
Two blocks of 8 houses on the Loke-road estate—	
*E. Knape & Son	2,784
Four blocks of 8 houses on the Wisbech and Saddlebow-roads site—	
*C. P. Unwin, Eccleshield	2,780

Leeds.—Erection of the Physics Department on a site adjoining Woodhouse-lane, Leeds, for the Leeds University. The Registrar, The University, Leeds. Messrs. Lanchester & Lodge, architects, 19, Bedford-square, W.C.1. Quantities by Messrs. Thomas Priestley & Sons, Oxford Place-chambers, Leeds:—

William Nicholson & Son (Leeds), Ltd.	£52,700
J. T. Wright & Sons	51,370
Henry Atkinson & Son, Ltd.	50,845
Lazenby Bros.	49,909
Paul Rhodes, Ltd.	49,342
J. H. Wood & Co., Ltd.	49,114
Armitage & Hodgson, Ltd.	48,403
W. J. & R. Turnbull	48,044
William Thompson & Sons	47,634
*William Airey & Son (Leeds), Ltd.	47,400

(All of Leeds.)

Liverpool.—Premises, for the Martins Bank, Ltd. Mr. H. J. Rowse, A.R.I.B.A., architect, India-buildings, Water-street:—

*W. Moss & Sons, Ltd., Liverpool.

Steelwork—
*Redpath Brown & Co., Ltd., Manchester.

Liverpool.—Billiard hall in Walton-street. Messrs. Gray & Evans, architects, 51, North John-street:—

*J. & G. Chappell, Liverpool.

Llandilofawr.—Stoneware and cast-iron sewers, with manholes and other appurtenant works, to be carried out to sewer the villages of Llandebie, Bonllwyn and Penybank, within the Parish of Llandebie, for the R.D.C. Mr. D. Watkin Rees, engineer and surveyor, 8, Wind-street, Ammanford:—

T. Walker, Clydach	£46,042 8 2
Ivor Davies, Bridgend	45,250 0 0
J. E. Jones & Co., Newport	41,398 12 0
The South Wales Contractors, Swansea	35,627 14 9
J. B. Packer, Hengoed	35,069 17 7
Thomas Bros., Pontardawe	34,604 16 6
Watson & Horrocks, Bridgend	33,487 1 9
*Pritchard Davies, Llandilo Carm	31,943 0 2

London.—Demolition and removal of the Willans' Turbine foundations at the King's-road Generating Station, for the St. Pancras B.C.:—

H. Sabey & Co., Ltd.	£825 0
Industrial Constructions, Ltd.	578 15
Demolition & Construction Co., Ltd.	414 15

(All of London.)

London.—System of central hot-water supply be installed in the central (No. 1) block of dwellings which is now in course of erection on Ossulston estate, St. Pancras, for the L.C.C.:—

J. Jeffreys & Co., Ltd.	£1,985 0
W. G. Cannon & Sons, Ltd.	1,860 0
Thames Bank Iron Co., Ltd.	1,838 0
The Brightside Foundry & Engineering Co., Ltd.	1,721 0
J. & F. May	1,665 0
Wm. Griffiths, Sons & Cromwell, Ltd.	1,629 0
Clark, Hunt & Co., Ltd.	1,581 0
*Heywood & Bryett,	1,500 0
Saunders & Taylor, Ltd. (tender withdrawn)	996 10
Architect's estimate	1,650 0

(All of London.)

London.—40 flats, comprising 1 five-room flat, 4 four-room flats, 23 three-room flats, and 12 two-room flats, each with scullery, bathroom and separate lavatory accommodation, for the Islington B.C.:—

‡R. Mansell	£22,870
R. J. Rowley, Ltd	23,347
Gee, Walker & Slater, Ltd.	23,358
C. Miskin & Sons, Ltd., St. Albans	23,825
Albert Monk	24,240
Chessums, Ltd.	24,428
Canonbury Construction Co., Ltd.	24,499
S. E. Moss & Sons, Chelmsford	24,800
Walter Jones & Sons, Ltd.	25,264
Henry Knight & Sons	25,415
Patman & Fotheringham, Ltd.	25,421
Turner & Payne	25,465
George Keetch & Sons	26,969

(Remainder of London.)

London.—Painting and decorative work at the Municipal Buildings, for the Islington B.C.:—

A. C. Mackinlay	£2,216 7 6
G. Bollom & Sons, Ltd.	1,497 0 0
Stevens & Son	1,476 0 0
S. Shaw	1,387 0 0
W. Bolt	1,305 0 0
A. Cheetham	1,133 0 0
Campbell Legh & Co.	1,112 0 0
J. C. Mather & Son	1,095 0 0
*Wm. Ball & Sons (Highbury), Ltd.	965 0 0

(All of London.)

London.—Supplying, fixing and painting 600 yards of new light iron railings and gates, etc., in St. Mary Magdalene Church Gardens, Holloway, N.17, for the Islington B.C. Mr. P. Moss, Borough Engineer:—

William Bolt, London	£608 12 9
A. C. Mackinlay, London	600 16 6
Bayliss, Jones & Bayliss, Ltd., London	371 8 3
Hill & Smith, Ltd., Staffs	362 6 7
William H. Allen, London	359 11 2
W. A. Parker & Co., Workington	342 19 6
T. W. Palmer & Co., Merton	330 5 3
Croggon & Co., Ltd., London	317 10 9
W. A. Baker & Co. (1910), Ltd., Newport (Mon.)	308 0 0
*William Hayward & Sons, Ltd., Wolverhampton	280 7 6

London.—Alterations, etc., at 56, Fitzroy-street, W.1. Messrs. Constantine & Vernon, architects, 82, Mortimer-street, W.1:—

Building works—
*Bovis (1928), Ltd., 43, Upper Berkeley-street, W.1.

Floors—
*Diespeker & Co., Ltd., Holborn Viaduct, E.C.

London.—New premises at Nos. 332-334, High Holborn, W.C.2, for Messrs. W. S. Crawford, Ltd. Mr. Herbert A. Welch, F.R.I.B.A., architect, 9, New-square, Lincoln's Inn, W.C.2. Messrs. Selby & Sanders, Caxton House, Caxton-street, Westminster, S.W.1, quantity surveyors:—

G. Godson & Sons, Ltd.	£34,300
G. E. Wallis & Sons, Ltd.	33,663
Higgs & Hill, Ltd.	29,200
Walter Lawrence & Son, Ltd.	28,862
Bovis (1928), Ltd.	28,637
Rice & Son, Ltd.	28,198
H. V. Clogg	27,768
*E. A. Roome & Co., Ltd., 7, Urswick-street, E.9	27,181

(All of London.)

London.—Further redecorations to 192, Browning-road, Manor Park, for the M.W.B.:—

Johnson Bros.	£120 0
E. B. Holmes & Co., Ltd.	111 0
*Jas. Webb & Son	91 10

London.—Painting of the exterior of the Town Hall, for the Shoreditch B.C.:—

Lee Bros., Chase Green	£1,467 0
A. Dreyfus, Ltd.	756 0
F. B. Self	660 0
Hensun & Co.	622 10
R. Woollaston & Co.	516 0
Palmers	498 0
Green & Smith	487 0
Byfex, Ltd.	477 10
Sykes & Son, Ltd.	459 11
W. H. Wagstaff & Sons	444 15
The Mond Staffordshire Refining Co., Ltd.	436 0
W. J. Clemens	384 10
A. O. Newman, Ltd.	375 0
W. Chappell & Co., Ltd.	338 10
*A. H. Inns, Ltd., Fox-court, Holborn, E.C.1	277 0

(All of London.)

Lowestoft.—12 houses in Kirkley-gardens, for the C.B.:—

*J. A. Gaze	£4,056

Middlesbrough.—Additions at the High School. Mr. S. E. Burgess, architect, Albert-street:—

*Thompson, Linthorpe.

Plumber—
*W. D. Charlton, Middlesbrough.

Painter—
*Hill, Middlesbrough.

Plasterer—
*Crabtree & Pearson, Linthorpe.

Slater—
*Robinson & Son, Ltd., Middlesbrough.

Middlesex.—Widening and improving of Rickmansworth-road between West End-lane and the Ruislip-Northwood boundary, for the C.C.:—

Wheeler & Co.	£19,803 11

Mitford and Launditch.—6 houses at North Elmham, for the R.D.C.:—

*Neale Bros., North Elmham	£2,445

Newcastle.—Greenhouse, at the Nursery-gardens, for the U.D.C.:—

*John Kidd & Sons	£141 15

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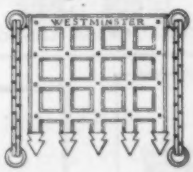

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Otley.—40 houses on the Westbourne estate, for the U.D.C.:—

*Newsome Walker, Ltd., Horsforth.

Plymouth.—Extension of premises in Cornwall-street, for Messrs. E. Dingle & Co., drapers. Mr. A. S. Parker, F.R.I.B.A., architect, 84, Andrew's-street:—

*A. M. Coles & Co., Ltd., Queen Anne's Battery, Plymouth	£10,000

Pontardawe.—Construction of about 66 yards of 12 in., 1,074 yards of 9 in., 40 yards of 6 in. cast-iron pipe sewers; 949 yards of 12 in., 9,554 yards of 9 in., and 2,580 yards of 6 in. stoneware pipe sewers, together with the construction of brick manholes, flushing chambers, and ventilating shafts, etc., at Gwaun-Cae-Gurwen, for the R.D.C. Mr. B. Islwyn Phillips, engineer:—

Mrs Morgan, Ystradgynlais	£37,802 18 9
Watson & Horrocks, Bridgend	30,630 11 0
J. E. Jones & Co., Ltd., Pontnanfraith	29,239 11 0
Henry Vedmore, Neath Abbey	29,165 14 6
E. Ivor Davies, Bridgend	28,654 18 0
David Davies, Alltwen	27,181 7 6
John Morgan, Neath	25,827 14 6
Thomas Bros., Pontardawe	25,554 8 7
Thomas Walker, Clydach-on-Tawe	25,260 0 11
South Wales Contractors, Pendergaer	25,226 15 6
J. B. Packer, Hengoed	23,209 17 1
Williams Bros., Pontardawe	20,715 11 0
J. H. Williams, Newport	19,948 10 0
W. T. Lewis, Maesteg	19,711 15 8
G. Fred Leadbeter, Newport	18,727 5 7
*Barnes, Chaplin & Co., Ltd., Cardiff	18,615 18 7
Westcott & Parry, Pontyclun	17,229 11 7

Portsmouth.—216 houses, on the Gladys-avenue site, Stamshaw, for the T.C. Mr. R. J. Jenkins, City Engineer:—

‡Pitt, Ltd., Sunderland	£71,719 12

Portsmouth.—Provision of sliding sashes, etc., at Royal Portsmouth Hospital. Messrs. A. E. Cogswell & Sons, chartered architects and surveyors, Prudential-buildings, Portsmouth:—

Saml. Salter, Southsea	£291 0
John Lay & Co., Portsmouth	290 0
F. Privett, Southsea	290 0
Jno. Croad, Ltd., Portsmouth	272 0
Tanner Bros., Southsea	200 0
Howe & Bishop, Southsea	194 10

Prestwich.—40 "A2" type houses on the Polefield estate, fronting Half Acre-lane and Cuckoo-lane, for the U.D.C. Mr. M. A. Piercy, architect and surveyor:—

*Pius A. Baines, Paley-road, Marsh-lane, Preston	

Prestwich.—Excavation of 2,000 cub. yards approximately of earth, and building of 46 lineal yards approximately of retaining wall on the Polefield estate, and fronting Half Acre-lane, for the U.D.C. Mr. M. A. Piercy, architect and surveyor:—

*J. Berry, Ltd., Chapel-street, Heywood.	

Redcar.—Handicraft room at the Redcar West Dyke Council school, for the E.C. Mr. John L. Coverdale, architect. Quantities by Messrs. Kitching & Archibald, Middlesbrough:—

*Norman Thompson, Middlesbrough	£380 18 11

Rochdale.—Boundary wall, 330 ft. long, 6 ft. high, to top of coping, with necessary concrete foundations, pillars 10 ft. apart, good seconds brick and terra-cotta coping, gateway for carts at corner with 2-in. framed, ledged and braced gates, stones for gudgeons and necessary ironwork fixed in position, for the Newbold Wesleyan Church. Mr. W. Swindells, 45, Percy-street:—

J. H. Field, Barnedge	£280 10 0
S. P. Bidder & Co., Manchester	265 0 0
J. H. Kershaw, Rochdale	255 0 0
W. H. Askworth & Son, Ltd., Deeplish, Rochdale	248 0 0
B. Woolfenden, Milnrow	230 0 0
A. Smith & Son, Castleton	228 10 0
J. A. Dufton, Gausebolme, Todmorden	216 12 6
Dryland & Preston, Ltd., Littleborough	212 0 0
T. Marshall, Moorhouse, near Rochdale	210 10 0
John Gott, Heywood	209 16 0
Jack Walker, Rochdale	196 10 0
Palmer & Cummins, Rochdale	189 0 0
*James Eccles & Son, Rochdale	185 0 0
East & Cocker, Ltd., Rochdale	169 4 6

Roudham.—Bridge over the railway level crossing at Roudham, for the Norfolk C.C.:—

‡Christiani & Nielson, Victoria-street, London, S.W.1	£3,985

Salford.—Factory additions to works, for Messrs. Olive & Partington, Ltd., paper makers, Broughton Bridge, Manchester. Mr. A. Brocklehurst, F.R.I.B.A., architect, 10, Norfolk-street, Manchester:—

*J. Greenwood, Ltd., Bury.

Steelwork—
*Edward Wood & Co., Ltd., Manchester.

New machinery—
*Bentley & Jackson, Ltd., Bury.

Settle.—New sanatorium at Giggleswick school, for the Governors. Messrs. Austin & Paley, architects, 24, Castle-park, Lancaster. Quantities by Messrs. Wright & Son, of Lancaster:—

*H. V. Robinson, Ltd., Keighley	£5,699

Shrewsbury.—12 houses in Monkmoor-road, for the T.C. Mr. A. W. Ward, Borough Surveyor:—
*W. Higley, Shrewsbury £4,968

Slough.—Cinema and cafe at Slough, for Messrs. Adelphi (Slough), Ltd. Mr. Eric Norman Bailey, architect, 66, High-street, Maidenhead:—
Griggs & Son, London £44,670
Turnbull & Son, London 44,651
Henry Kent, London 43,959
James & Son, Maidenhead 42,987
Creed & Co., Maidenhead 42,583
Sewell & Richardson, London 42,079
Rice & Son, Ltd., London 40,853
H. D. Bowyer, Slough 38,478

Slough.—Extensions to goods shed and station buildings, for the G.W.R. Mr. P. E. Culverhouse, F.R.I.B.A., architect, Paddington Station, W.2:—
*Bowyer & Co., Slough.

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Building—
*Bovis (1928), Ltd., Upper Berkeley-street, W.1.
Steelwork—
*Moreland Hayne & Co., Ltd., London.
Artificial stone—
*Patent Impervious Stone Co., London.
Asphalt—
*Ragusa Asphalt Co., Ltd., London.
Windows—
*Crittall Manufacturing Co., Ltd., Braintree.

Spenborough.—Conveniences and shelters in West End-park, Cleckheaton, for the U.D.C. Mr. A. Rothera, surveyor:—
Mason—
*T. Drake, Liversedge.
Joiner—
*Schofield, Cleckheaton.
Plumber—
*W. Waterhouse, Liversedge.
Tilers—
*S. Hepworth & Son, Cleckheaton.

Stamford.—Reconstruction of the Institution, for the Governors of the Infirmary. Messrs. H. F. Traylen and F. J. Lenton, FF.R.I.B.A., architects, 16, Broad-street:—
*Wallhead Bros., Ruskington, near Sleaford £14,975

Stockport.—Public stairway between Lawrence-street and Mersey-square, for the C.B. Mr. H. Hamer, Borough Surveyor:—
*Longson & Darnley, Stockport £2,368

Tregenna.—Additions and alterations to the Tregenna Castle Hotel, for the G.W.R. Mr. P. E. Culverhouse, F.R.I.B.A., architect, Paddington Station, W.2:—
Building works—
*W. T. Nicholls, Ltd., Gloucester.
Steelwork—
*Archibald D. Dawnay & Sons, Ltd., London.
Floors—
*Siegwart Patent Flooring Co., Ltd., London.
Heating and hot water supplies—
*William Freer, Ltd., London.

Trowbridge.—New offices in Silver-street, for the Trowbridge Water Co. Mr. W. W. Snailum, L.R.I.B.A., architect, Church-street:—
C. G. Matthews & Sons, Hilperton ... £2,450
E. Linzey & Son, Trowbridge 2,349
Bigwood & Co., Melksham 2,238
*H. Isley & Co., Trowbridge 2,200

Watford.—New mental block and infirmary block at the Institution, for the B.G.:—
Heating and hot water supply—
*W. Griffiths, Sons & Cromwell, Ltd., London £988
Electrical works—
*Ellis & Ward, Ltd., London £568

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*A. Griffith & Sons, Wolverhampton £283 0
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*A. Griffith & Sons, Wolverhampton 347 0
26 two-bedroom houses at Willenhall-road—
*A. Griffith & Sons, Wolverhampton 287 0
2 non-parlour type at Willenhall-road—
*A. Griffith & Sons, Wolverhampton 349 10
18 non-parlour type houses at Low Hill—
*A. Powell, Wolverhampton 364 0

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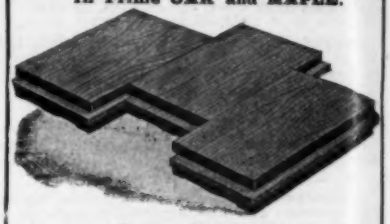
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